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Please direct correspondence to:

Dr. Eric R. Loft, Editor in Chief
California Fish and Game
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A CHECK-LIST OF THE AMPHIBIANS, REPTILES, BIRDS, AND MAMMALS OF CALIFORNIA

WILLIAM F. LAUDENSLAYER, JR.[1]
Pacific Southwest Research Station
USDA Forest Service
2081 E. Sierra Ave.
Fresno, California 93710

WILLIAM E. GRENFELL, JR.
Wildlife Management Division
California Department of Fish and Game
1416 Ninth St.
Sacramento, California 95814

and

DAVID C. ZEINER
Wildlife Management Division
California Department of Fish and Game
1701 Nimbus Rd.
Rancho Cordova, California 95670

The following is a check-list of the species of amphibians, reptiles, birds, and mammals found in California and adjacent off-shore waters. The list is presented, to the extent possible, in phylogenetic order and includes vernacular and scientific names for each species. Information is also provided on the legal status of those species and subspecies that appear on California and Federal lists of Threatened and Endangered species. California Species of Special Concern (an informal designation used by the California Department of Fish and Game) are also included in the list. Subspecies are included in this check-list only when they appear on any of the preceding lists. This list includes 933 species representing 438 genera and 126 families.

INTRODUCTION

Although lists of species for various classes of vertebrates exist for California (e.g., Williams 1979, Shapovalov et al. 1981, Jennings 1983, 1987, Binford 1986), until 1983, there was no recent, combined list of the species of amphibians, reptiles, birds, and mammals for the State (Laudenslayer and Grenfell 1983). However, animals and their names do not remain static. Since 1983, a number of species, principally birds, have been added to the list of California's fauna; species have been

[1]Mailing address: PSW, Tahoe National Forest, 631 Coyote St., P.O. Box 6003, Nevada City, California 95959-6003

grouped into or split out of other species; names, especially scientific names, have changed; and species and subspecies have been added to the various California and Federal lists of Threatened and Endangered species and California Species of Special Concern. Our list, then, is a revision intended to bring the Laudenslayer and Grenfell (1983) list up to date (as of July 1991). Because knowledge of the systematic relationships of animals is always changing and additional species are being added to the list of California's fauna, it is likely that this list will be out-of-date in a relatively short time. Therefore, this list should be considered a working list, and it will be necessary to initiate a process to issue updates periodically.

OBJECTIVES

The purposes of this list are to (1) provide users with a list of amphibian, reptile, bird, and mammal species that can be found in California and adjacent waters, (2) promote standardized usage of vernacular and scientific names for these species, and (3) identify those species and subspecies that currently appear on various California and Federal lists of species with special legal status. The list includes those introduced species that are relatively widespread in the State. We did not include those species that formerly existed within the borders of California and are now extinct.

Because, for some species, a number of vernacular names may exist (e.g., see Banks 1988), we have provided alternative names for some species; our preferred name is the first presented. We have also included alternative scientific names for those species that are undergoing taxonomic revision. As with vernacular names, our preferred name is the first presented. We have attempted to place species in phylogenetic order to illustrate potential relationships, recognizing that such relationships are not very well known for many taxa and are subject to change as more is learned about phylogenetic relationships.

The various California and Federal lists of species that have legal status or are of concern are also continually changing. We have incorporated the most recent information available. We differ from the current California list of species of Special Concern because we have used the subspecies names from the original publications (Remsen 1978, Williams 1986) that describe why each taxon was of concern rather than merely listing the species name.

We hope that this list will help standardize species names and improve communications about wildlife issues in California. We recommend that, as new information becomes available, this list be reexamined periodically and, if appropriate, updated.

NAMING CONVENTIONS AND STATUS

Amphibians and Reptiles

There are a number of formal lists of amphibians and reptiles that can be used to standardize the nomenclature of these species. Collins et al. (1978, 1982) and Collins (1990) attempted to provide a standard list of amphibians and reptiles for North America. Although the Collins (1990) list is quite recent, many of the naming conventions for vernacular and scientific names are not well accepted by herpetologists, especially in the western United States (e.g., see Stebbins 1985, Jennings 1988). Jennings (1987) produced a comprehensive list of species and subspecies found in California; however, genera, species, and subspecies are organized alphabetically rather than in a phylogenetic order. Stebbins (1985), in the most recent update of his field guide to western amphibians and reptiles, organized the species list phylogenetically. We followed the order set forth by Stebbins (1985) and used Jennings (1987) as an additional source for species found in California. We prefer and generally used the scientific names from Stebbins (1985) but have also included names from Jennings (1987) where appropriate.

Names and relationships of amphibians and reptiles are currently undergoing many changes as new information accumulates. As an example, the genus *Batrachoseps* is currently under intense study and changes in the list of species of this genus may occur in the next several years. Thus, the nomenclature of these groups is relatively unstable. We have taken a conservative approach when applying names to these species, and it is clear that a revision of these taxa will be necessary in a relatively short time.

Names of amphibians and reptiles considered by the Federal government to be Threatened or Endangered are taken from the Code of Federal Regulations (50 CFR 17.11); whereas those listed by the State of California are from the California Administrative Code (Title 14, Section 670.5) (see also CDF&G 1991*a*, 1991*b* for a complete listing of these species). Amphibians and reptiles currently listed as California Fully Protected are from the Fish and Game Code of California (Section 5050); Amphibians and Reptiles of Special Concern are taken from CDF&G (1991*b*).

Birds

We based the organization and nomenclature for species of birds and higher taxa on the work of the American Ornithologists' Union (AOU) Committee on Classification and Nomenclature (AOU 1983, 1984, 1985, 1987, 1989); names for subspecies are from the Fifth Edition of the AOU Check-list of North American Birds (1957). Binford (1986) provided the most recent list of birds found in California, and Roberson (1986, 1989), Dunn (1988), Patten (1991) and Don Roberson (pers. comm.) provided us with additional information from recent decisions of the California Bird Record Committee. Our list differs slightly from that of Binford

(1986) because we include species introduced to California that probably do not have stable populations. We also differ from the Review Lists of the California Bird Record Committee because we have not included hybrids.

Names of birds considered by the Federal government to be Threatened or Endangered are taken from the Code of Federal Regulations (50 CFR 17.11); whereas those listed by the State of California are from the California Administrative Code (Title 14, Section 670.5) (see also CDF&G 1991*a*, 1991*b* for a complete listing of these species). Birds currently listed as California Fully Protected are from the Fish and Game Code of California (Section 3511) and Bird Species of Special Concern were provided by Remsen (1978) as amended by CDF&G (1990, 1991*b*).

Mammals

We used existing information on the occurrence of mammal species in California (Williams 1979) to develop the following list of mammals for California. Nomenclatural conventions used were from Jones et al. (1986), a standardized list of mammal species in North America. Jones et al. (1986), however, did not organize species within genera in a phylogenetic sequence because, for some genera, a meaningful phylogenetic hierarchy could not be created. We chose to follow the phylogenetic sequence of Jones et al. (1982) so that the arrangements of our lists of amphibians and reptiles, birds, and mammals would be standardized.

Names of mammals considered by the Federal government to be Threatened or Endangered are taken from the Code of Federal Regulations (50 CFR 17.11); whereas those listed by the State of California are from the California Administrative Code (Title 14, Section 670.5) (see also CDF&G 1991*a*, 1991*b* for a complete listing of these species). Names of mammals currently listed as California Fully Protected are from the Fish and Game Code of California (Section 4700), and names of those considered to be Species of Special Concern were extracted from Williams (1986) as amended by CDF&G (1990, 1991*b*).

Table 1. Numbers of taxa of amphibians, reptiles, birds, and mammals found in California and adjacent off-shore waters.

	Amphibians	Reptiles	Birds	Mammals	Total
Orders	2	2	19	9	32
Families	10	20	59	37	126
Genera	15	53	266	104	438
Species	49	87	583	214	933
Subspecies[a]	8	15	27	54	104

[a]Numbers of subspecies on one or more federal or state lists.

CHECK-LIST

This list contains 933 species of 438 genera (Table 1). In addition to those species and subspecies found on California or Federal Threatened and Endangered Species Lists (CDF&G 1991*a*, 1991*b*), the California lists of Species of Special Concern (CDF&G 1990, 1991*b*), and the California Fully Protected Species list (CDF&G 1988), we have also identified those species which are subject to sport or commercial harvest under regulations of the California Fish and Game Commission, those species which have been introduced to California, and those birds that are rare visitors to California. The following symbols are used to denote status.

FE	Federal-listed Endangered species
FT	Federal-listed Threatened species
CE	California-listed Endangered species
CT	California-listed Threatened species
CP	California Fully Protected species
SC	California Species of Special Concern
HA	Harvest species
I	Introduced to California
I?	Introduced to California; it is not known if populations are viable through time
+	rare visitors to California[2]

[2]Please submit written records of sightings of any birds that are rare visitors to: Michael A. Patten, Secretary, California Bird Record Committee, P.O. Box 8612, Riverside, CA 92515-8612.

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CLASS: AMPHIBIA (Amphibians)

ORDER FAMILY Vernacular name	Scientific name	Status
CAUDATA (Salamanders)		
AMBYSTOMATIDAE (Mole Salamanders and relatives)		
Tiger Salamander	*Ambystoma tigrinum*	I[3]
California Tiger Salamander[4]	*A. t. californiense*	SC
Northwestern Salamander	*Ambystoma gracile*	
Long-toed Salamander	*Ambystoma macrodactylum*	
Santa Cruz Long-toed Salamander	*A. m. croceum*	CE, FE, CP
DICAMPTODONTIDAE (Giant and Olympic Salamanders)		
Pacific Giant Salamander	*Dicamptodon ensatus*	
Olympic Salamander	*Rhyacotriton olympicus*	SC
SALAMANDRIDAE (Newts)		
Rough-skinned Newt	*Taricha granulosa*	
California Newt	*Taricha torosa*	
Coast Range Newt	*T. t. torosa*	SC
Red-bellied Newt	*Taricha rivularis*	
PLETHODONTIDAE (Lungless Salamanders)		
Dunn's (Dunn) Salamander	*Plethodon dunni*	
Del Norte Salamander	*Plethodon elongatus*	SC
Siskiyou Mountains Salamander[5]	*Plethodon stormi*	CT
Ensatina	*Ensatina eschscholtzii*	
Yellow-blotched Salamander	*E. e. croceater*	SC
Larged-blotched Salamander	*E. e. klauberi*	SC
Black Salamander	*Aneides flavipunctatus*	
Clouded Salamander	*Aneides ferreus*	
Arboreal Salamander	*Aneides lugubris*	
Inyo Mountains Salamander	*Batrachoseps campi*	SC
Tehachapi Slender Salamander	*Batrachoseps stebbinsi*	CT
Black-bellied Slender Salamander	*Batrachoseps nigriventris*	
Kern Canyon Slender Salamander	*Batrachoseps simatus*	CT
Pacific Slender Salamander	*Batrachoseps pacificus*	
Desert Slender Salamander	*Batrachoseps aridus*	CE, FE
California Slender Salamander	*Batrachoseps attenuatus*	
Mount Lyell Salamander	*Hydromantes platycephalus*	SC
SALIENTIA (Frogs and Toads)		
ASCAPHIDAE (Tailed Frogs)		
Tailed Frog	*Ascaphus truei*	SC

[3]Populations of this species, other than those of the California tiger salamander, have been introduced.
[4]Considered by some authors to be a separate species.
[5]Considered by some authors to be a subspecies of the Del Norte Salamander.

Shasta Salamander	*Hydromantes shastae*	CT
Limestone Salamander	*Hydromantes brunus*	CT, CP
PELOBATIDAE (Spadefoot Toads)		
Couch's (Couch) Spadefoot	*Scaphiopus couchii*	SC
Western Spadefoot	*Scaphiopus hammondii*	SC
Great Basin Spadefoot	*Scaphiopus intermontanus*	
BUFONIDAE (True Toads)		
Colorado River Toad (Sonora Desert Toad)	*Bufo alvarius*	SC
Western Toad	*Bufo boreas*	
Black Toad	*Bufo exsul*	CT, CP
Yosemite Toad	*Bufo canorus*	SC
Woodhouse's (Woodhouse) Toad	*Bufo woodhousei*	
Southwestern Toad	*Bufo microscaphus*	
Arroyo Southwestern Toad	*B. m. californicus*	SC
Red-spotted Toad	*Bufo punctatus*	
Great Plains Toad	*Bufo cognatus*	
HYLIDAE (Treefrogs and relatives)		
California Treefrog	*Hyla (Pseudacris) cadaverina*	
Pacific Treefrog	*Hyla (Pseudacris) regilla*	
RANIDAE (True Frogs)		
Red-legged Frog	*Rana aurora*	
Northern Red-legged Frog	*R. a. aurora*	SC
California Red-legged Frog	*R. a. draytonii*	SC
Spotted Frog	*Rana pretiosa*	SC
Cascades Frog	*Rana cascadae*	SC
Foothill Yellow-legged Frog	*Rana boylii*	SC
Mountain Yellow-legged Frog	*Rana muscosa*	SC
Northern Leopard Frog	*Rana pipiens*	SC
Rio Grande Leopard Frog	*Rana berlandieri*	I
Lowland Leopard Frog	*Rana yavapaiensis*	
Bullfrog	*Rana catesbeiana*	I, HA
PIPIDAE (Pipid Frogs)		
African Clawed Frog	*Xenopus laevis*	I

CLASS: REPTILIA (Reptiles)

TESTUDINES (Turtles)		
CHELYDRIDAE (Snapping Turtles)		
Snapping Turtle	*Chelydra serpentina*	I
KINOSTERNIDAE (Musk and Mud Turtles)		
Sonoran Mud Turtle	*Kinosternon sonoriense*	SC
EMYDIDAE (Box and Water Turtles)		
Western Pond Turtle	*Clemmys marmorata*	
Northwestern Pond Turtle	*C. m. marmorata*	SC
Southwestern Pond Turtle	*C. m. pallida*	SC
Painted Turtle	*Chrysemys picta*	I
Slider	*Pseudemys (Trachemys) scripta*	I

TESTUDINIDAE (True Land Tortoises)		
Desert Tortoise	*Gopherus (Xerobates) agassizii*	CT, FT
CHELONIIDAE (Sea Turtles)		
Green Turtle	*Chelonia mydas*	FT +
Loggerhead	*Caretta caretta*	FT +
Pacific Ridley	*Lepidochelys olivacea*	FT +
Hawksbill	*Eretmochelys imbricata*	FE +
DERMOCHELYIDAE (Leatherback Turtles)		
Leatherback	*Dermochelys coriacea*	FE +
TRIONYCHIDAE (Softshell Turtles)		
Spiny Softshell	*Trionyx spiniferus*	I
SQUAMATA (Lizards and Snakes)		
GEKKONIDAE (Geckos)		
Western Banded Gecko (Banded Gecko)[6]	*Coleonyx variegatus*	
Switack's Banded Gecko (Switak's Gecko)[6]	*Coleonyx switaki*	CT
Leaf-toed Gecko	*Phyllodactylus xanti*	
Mediterranean Gecko	*Hemidactylus turcicus*	I
IGUANIDAE (Iguanids)		
Desert Iguana	*Dipsosaurus dorsalis*	
Common Chuckwalla	*Sauromalus obesus*	
Zebra-tailed Lizard	*Callisaurus draconoides*	
Colorado Desert Fringe-toed Lizard	*Uma notata*	SC
Coachella Valley Fringe-toed Lizard	*Uma inornata*	CE, FT
Mojave Fringe-toed Lizard	*Uma scoparia*	SC
Desert Collared Lizard	*Crotaphytus insularis*	
Long-nosed Leopard Lizard	*Gambelia wislizenii*	
Blunt-nosed Leopard Lizard	*Gambelia silus*	CE, FE, CP
Desert Spiny Lizard	*Sceloporus magister*	
Granite Spiny Lizard	*Sceloporus orcutti*	
Western Fence Lizard	*Sceloporus occidentalis*	
Sagebrush Lizard	*Sceloporus graciosus*	
Side-blotched Lizard	*Uta stansburiana*	
Long-tailed Brush Lizard	*Urosaurus graciosus*	
Tree Lizard	*Urosaurus ornatus*	
Small-scaled Lizard	*Urosaurus microscutatus*	
Banded Rock Lizard	*Petrosaurus mearnsi*	
Coast Horned Lizard	*Phrynosoma coronatum*	
San Diego Horned Lizard	*P. c. blainvillei*	SC
California Horned Lizard	*P. c. frontale*	SC
Desert Horned Lizard	*Phrynosoma platyrhinos*	
Short-horned Lizard	*Phrynosoma douglassii*	
Flat-tailed Horned Lizard	*Phrynosoma mcallii*	SC
XANTUSIIDAE (Night Lizards)		
Granite Night Lizard	*Xantusia henshawi*	
Sandstone Night Lizard	*X. h. gracilis*	SC
Desert Night Lizard	*Xantusia vigilis*	

[6]Some authors place banded geckos in the family Eublepharidae (Eyelid Geckos).

Sierra Night Lizard	*X. v. sierrae*	SC
Island Night Lizard	*Xantusia riversiana*	FT, SC
SCINCIDAE (Skinks)		
Western Skink	*Eumeces skiltonianus*	
Coronado Skink	*E. s. interparietalis*	SC
Gilbert's Skink	*Eumeces gilberti*	
TEIIDAE (Whiptails and relatives)		
Orange-throated Whiptail	*Cnemidophorus hyperythrus*	SC
Western Whiptail	*Cnemidophorus tigris*	
ANGUIDAE (Alligator Lizards and relatives)		
Southern Alligator Lizard	*Elgaria multicarinata*	
Panamint Alligator Lizard	*Elgaria panamintina*	SC
Northern Alligator Lizard	*Elgaria coerulea*	
ANNIELLIDAE (California Legless Lizards)		
California Legless Lizard	*Anniella pulchra*	
Silvery Legless Lizard	*A. p. pulchra*	SC
Black Legless Lizard	*A. p. nigra*	SC
HELODERMATIDAE (Venomous Lizards)		
Gila Monster	*Heloderma suspectum*	SC
LEPTOTYPHLOPIDAE (Slender Blind Snakes)		
Western Blind Snake	*Leptotyphlops humilis*	
BOIDAE (Boas)		
Rubber Boa	*Charina bottae*	
Southern Rubber Boa	*C. b. umbratica*	CT
Rosy Boa	*Lichanura trivirgata*	
COLUBRIDAE (Colubrids)		
Ringneck Snake	*Diadophis punctatus*	
Sharp-tailed Snake	*Contia tenuis*	
Spotted Leaf-nosed Snake	*Phyllorhynchus decurtatus*	
Racer	*Coluber constrictor*	
Coachwhip	*Masticophis flagellum*	
San Joaquin Whipsnake	*M. f. ruddocki*	SC
Striped Racer (California Whipsnake)	*Masticophis lateralis*	
Alameda Striped Racer (Alameda Whipsnake)	*M. l. euryxanthus*	CT
Striped Whipsnake	*Masticophis taeniatus*	
Baja California Rat Snake	*Elaphe rosaliae*	SC
Western Patch-nosed Snake	*Salvadora hexalepis*	
Coast Patch-nosed Snake	*S. h. virgultea*	SC
Glossy Snake	*Arizona elegans*	
Gopher Snake	*Pituophis melanoleucus*	
Common Kingsnake	*Lampropeltis getulus*	
California Mountain Kingsnake	*Lampropeltis zonata*	
San Diego Mountain Kingsnake	*L. z. pulchra*	SC
Long-nosed Snake	*Rhinocheilus lecontei*	
Common Garter Snake	*Thamnophis (Nerodia) sirtalis*	
San Francisco Garter Snake	*T. (N.) s. tetrataenia*	CE, FE, CP
Western Terrestrial Garter Snake	*Thamnophis (Nerodia) elegans*	

COLUBRIDAE (Colubrids), cont.		
Western Aquatic (Sierra) Garter Snake	*Thamnophis (Nerodia) couchii*	
Giant Garter Snake[7]	*T. (N.) c. gigas*	CT
Central Coast Garter Snake	*Thamnophis (Nerodia) atratus*	
Two-striped Garter Snake	*Thamnophis (Nerodia) hammondii*	
Northwestern Garter Snake	*Thamnophis (Nerodia) ordinoides*	
Checkered Garter Snake	*Thamnophis (Nerodia) marcianus*	
Ground Snake	*Sonora semiannulata*	
Western Shovel-nosed Snake	*Chionactis occipitalis*	
California Black-headed Snake	*Tantilla planiceps*	
Southwestern Black-headed Snake	*Tantilla hobartsmithi*	
Lyre Snake	*Trimorphodon biscutatus*	
Night Snake	*Hypsiglena torquata*	
HYDROPHIIDAE (Sea Snakes)		
Yellow-bellied Sea Snake	*Pelamis platurus*	
VIPERIDAE (Vipers)		
Western Diamondback Rattlesnake	*Crotalus atrox*	
Red Diamond Rattlesnake	*Crotalus ruber*	SC
Speckled Rattlesnake	*Crotalus mitchellii*	
Sidewinder	*Crotalus cerastes*	
Western Rattlesnake	*Crotalus viridis*	
Mojave Rattlesnake	*Crotalus scutulatus*	

CLASS: AVES (Birds)

GAVIIFORMES (Loons)		
GAVIIDAE (Loons)		
Red-throated Loon	*Gavia stellata*	
Pacific Loon	*Gavia pacifica*	
Common Loon	*Gavia immer*	SC
Yellow-billed Loon	*Gavia adamsii*	+
PODICIPEDIFORMES (Grebes)		
PODICIPEDIDAE (Grebes)		
Least Grebe	*Tachybaptus dominicus*	+
Pied-billed Grebe	*Podilymbus podiceps*	
Horned Grebe	*Podiceps auritus*	
Red-necked Grebe	*Podiceps grisegena*	
Eared Grebe	*Podiceps nigricollis*	
Western Grebe	*Aechmophorus occidentalis*	
Clark's Grebe	*Aechmophorus clarkii*	
PROCELLARIIFORMES (Albatrosses, Shearwaters, Petrels, and relatives)		
DIOMEDEIDAE (Albatrosses)		
Wandering Albatross	*Diomedea exulans*	+
Short-tailed Albatross	*Diomedea albatrus*	+
Black-footed Albatross	*Diomedea nigripes*	

[7]Some authors consider the Giant Garter Snake to be a species.

Laysan Albatross	*Diomedea immutabilis*	
PROCELLARIIDAE (Shearwaters, Fulmars)		
Northern Fulmar	*Fulmarus glacialis*	
Mottled Petrel	*Pterodroma inexpectata*	+
Murphy's Petrel	*Pterodroma ultima*	+
Cook's Petrel	*Pterodroma cookii*	
Stejneger's Petrel	*Pterodroma longirostris*	+
Streaked Shearwater	*Calonectris leucomelas*	+
Pink-footed Shearwater	*Puffinus creatopus*	
Flesh-footed Shearwater	*Puffinus carneipes*	
Greater Shearwater	*Puffinus gravis*	+
Wedge-tailed Shearwater	*Puffinus pacificus*	+
Buller's Shearwater	*Puffinus bulleri*	
Sooty Shearwater	*Puffinus griseus*	
Short-tailed Shearwater	*Puffinus tenuirostris*	
Black-vented Shearwater	*Puffinus opisthomelas*	
HYDROBATIDAE (Storm Petrels)		
Wilson's Storm-Petrel	*Oceanites oceanicus*	+
Fork-tailed Storm-Petrel	*Oceanodroma furcata*	SC
Leach's Storm-Petrel	*Oceanodroma leucorhoa*	
Ashy Storm-Petrel	*Oceanodroma homochroa*	SC
Band-rumped Storm-Petrel	*Oceanodroma castro*	+
Wedge-rumped Storm-Petrel	*Oceanodroma tethys*	+
Black Storm-Petrel	*Oceanodroma melania*	SC
Least Storm-Petrel	*Oceanodroma microsoma*	
PELECANIFORMES (Tropicbirds, Pelicans, and relatives)		
PHAETHONTIDAE (Tropicbirds)		
White-tailed Tropicbird	*Phaethon lepturus*	+
Red-billed Tropicbird	*Phaethon aethereus*	
Red-tailed Tropicbird	*Phaethon rubricauda*	+
SULIDAE (Boobies and Gannets)		
Masked Booby	*Sula dactylatra*	+
Blue-footed Booby	*Sula nebouxii*	+
Brown Booby	*Sula leucogaster*	+
Red-footed Booby	*Sula sula*	+
PELECANIDAE (Pelicans)		
American White Pelican	*Pelecanus erythrorhynchos*	SC
Brown Pelican	*Pelecanus occidentalis*	
California Brown Pelican	*P. o. californicus*	CE, FE, CP
PHALACROCORACIDAE (Cormorants)		
Double-crested Cormorant	*Phalacrocorax auritus*	SC
Olivaceous Cormorant	*Phalacrocorax olivaceus*	+
Brandt's Cormorant	*Phalacrocorax penicillatus*	
Pelagic Cormorant	*Phalacrocorax pelagicus*	
ANHINGIDAE (Darters)		
Anhinga	*Anhinga anhinga*	+

FREGATIDAE (Frigatebirds)		
Magnificent Frigatebird	*Fregata magnificens*	
CICONIIFORMES (Herons, Storks, Ibises, and relatives)		
ARDEIDAE (Herons and Bitterns)		
American Bittern	*Botaurus lentiginosus*	
Least Bittern	*Ixobrychus exilis*	SC
Great Blue Heron	*Ardea herodias*	
Great Egret	*Casmerodius albus*	
Snowy Egret	*Egretta thula*	
Little Blue Heron	*Egretta caerulea*	
Tricolored Heron	*Egretta tricolor*	
Reddish Egret	*Egretta rufescens*	SC +
Cattle Egret	*Bubulcus ibis*	
Green-backed Heron	*Butorides striatus*	
Black-crowned Night-Heron	*Nycticorax nycticorax*	
Yellow-crowned Night-Heron	*Nyctanassa violacea*	+
THRESKIORNITHIDAE (Ibises and Spoonbills)		
White Ibis	*Eudocimus albus*	+
White-faced Ibis	*Plegadis chihi*	SC
Roseate Spoonbill	*Ajaia ajaja*	+
CICONIIDAE (Storks and Wood Ibises)		
Wood Stork	*Mycteria americana*	SC
ANSERIFORMES (Screamers, Ducks, and relatives)		
ANATIDAE (Swans, Geese, and Ducks)		
Fulvous Whistling-Duck	*Dendrocygna bicolor*	SC, HA
Black-bellied Whistling-Duck	*Dendrocygna autumnalis*	+
Tundra Swan	*Cygnus columbianus*	
Whooper Swan	*Cygnus cygnus*	+
Trumpeter Swan	*Cygnus buccinator*	CP, +
Greater White-fronted Goose	*Anser albifrons*	HA
Snow Goose	*Chen caerulescens*	HA
Ross' Goose	*Chen rossii*	HA
Emperor Goose	*Chen canagica*	+
Brant	*Branta bernicla*	HA
Canada Goose	*Branta canadensis*	HA
Aleutian Canada Goose	*B. c. leucopareia*	FT
Wood Duck	*Aix sponsa*	HA
Green-winged Teal	*Anas crecca*	HA
Baikal Teal	*Anas formosa*	+
American Black Duck	*Anas rubripes*	+
Mallard	*Anas platyrhynchos*	HA
Northern Pintail	*Anas acuta*	HA
Garganey	*Anas querquedula*	+
Blue-winged Teal	*Anas discors*	HA
Cinnamon Teal	*Anas cyanoptera*	HA
Northern Shoveler	*Anas clypeata*	HA
Gadwall	*Anas strepera*	HA
Eurasian Wigeon	*Anas penelope*	
American Wigeon	*Anas americana*	HA

Common Pochard	*Aythya ferina*	+
Canvasback	*Aythya valisineria*	HA
Redhead	*Aythya americana*	HA
Ring-necked Duck	*Aythya collaris*	HA
Tufted Duck	*Aythya fuligula*	+
Greater Scaup	*Aythya marila*	HA
Lesser Scaup	*Aythya affinis*	HA
King Eider	*Somateria spectabilis*	+
Steller's Eider	*Polysticta stelleri*	+
Harlequin Duck	*Histrionicus histrionicus*	SC, HA
Oldsquaw	*Clangula hyemalis*	HA
Black Scoter	*Melanitta nigra*	HA
Surf Scoter	*Melanitta perspicillata*	HA
White-winged Scoter	*Melanitta fusca*	HA
Common Goldeneye	*Bucephala clangula*	HA
Barrow's Goldeneye	*Bucephala islandica*	SC, HA
Bufflehead	*Bucephala albeola*	HA
Smew	*Mergellus albellus*	+
Hooded Merganser	*Lophodytes cucullatus*	HA
Common Merganser	*Mergus merganser*	HA
Red-breasted Merganser	*Mergus serrator*	HA
Ruddy Duck	*Oxyura jamaicensis*	HA

FALCONIFORMES (Vultures, Hawks, and Falcons)

CATHARTIDAE (New World Vultures)

Turkey Vulture	*Cathartes aura*	
California Condor	*Gymnogyps californianus*	CE, FE, CP

ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)

Osprey	*Pandion haliaetus*	SC
Black-shouldered (White-tailed) Kite	*Elanus caeruleus*	CP
Mississippi Kite	*Ictinia mississippiensis*	+
Bald Eagle	*Haliaeetus leucocephalus*	CE, FE. CP
Northern Harrier	*Circus cyaneus*	SC
Sharp-shinned Hawk	*Accipiter striatus*	SC
Cooper's Hawk	*Accipiter cooperi*	SC
Northern Goshawk	*Accipiter gentilis*	SC
Common Black-Hawk	*Buteogallus anthracinus*	+
Harris' Hawk	*Parabuteo unicinctus*	SC
Red-shouldered Hawk	*Buteo lineatus*	
Broad-winged Hawk	*Buteo platypterus*	
Swainson's Hawk	*Buteo swainsoni*	CT
Zone-tailed Hawk	*Buteo albonotatus*	+
Red-tailed Hawk	*Buteo jamaicensis*	
Ferruginous Hawk	*Buteo regalis*	SC
Rough-legged Hawk	*Buteo lagopus*	
Golden Eagle	*Aquila chrysaetos*	CP, SC

FALCONIDAE (Caracaras and Falcons)

American Kestrel	*Falco sparverius*	
Merlin	*Falco columbarius*	SC
Peregrine Falcon	*Falco peregrinus*	
American Peregrine Falcon	*F. p. anatum*	CE, FE, CP
Gyrfalcon	*Falco rusticolus*	+
Prairie Falcon	*Falco mexicanus*	SC

GALLIFORMES (Megapodes, Curassows, Pheasants, and relatives)

PHASIANIDAE (Quails, Pheasants, and relatives)		
Chukar	*Alectoris chukar*	I, HA
Ring-necked Pheasant	*Phasianus colchicus*	I, HA
Common Peafowl	*Pavo cristatus*	I?
Blue Grouse	*Dendragapus obscurus*	HA
White-tailed Ptarmigan	*Lagopus leucurus*	I
Ruffed Grouse	*Bonasa umbellus*	SC, HA
Sage Grouse	*Centrocercus urophasianus*	SC, HA
Sharp-tailed Grouse	*Tympanuchus phasianellus*	SC
Wild Turkey	*Meleagris gallopavo*	I, HA
Gambel's Quail	*Callipepla gambelii*	HA
California Quail	*Callipepla californica*	HA
Mountain Quail	*Oreortyx pictus*	HA

GRUIFORMES (Cranes, Rails, and relatives)

RALLIDAE (Rails, Gallinules, and Coots)		
Yellow Rail	*Coturnicops noveboracensis*	SC +
Black Rail	*Laterallus jamaicensis*	
California Black Rail	*L. j. coturniculus*	CT, CP
Clapper Rail	*Rallus longirostris*	
California Clapper Rail	*R. l. obsoletus*	CE, FE, CP
Light-footed Clapper Rail	*R. l. levipes*	CE, FE, CP
Yuma Clapper Rail	*R. l. yumanensis*	CT, FE, CP
Virginia Rail	*Rallus limicola*	
Sora	*Porzana carolina*	
Purple Gallinule	*Porphyrula martinica*	+
Common Moorhen	*Gallinula chloropus*	HA
American Coot	*Fulica americana*	HA
GRUIDAE (Cranes)		
Sandhill Crane	*Grus canadensis*	
Greater Sandhill Crane	*G. c. tabida*	CT, CP

CHARADRIIFORMES (Shorebirds, Gulls, and relatives)

CHARADRIIDAE (Plovers and relatives)		
Black-bellied Plover	*Pluvialis squatarola*	
Lesser Golden-Plover	*Pluvialis dominica*	
Mongolian Plover	*Charadrius mongolus*	+
Snowy Plover	*Charadrius alexandrinus*	
Western Snowy Plover	*C. a. nivosus*	SC
Wilson's Plover	*Charadrius wilsonia*	+
Semipalmated Plover	*Charadrius semipalmatus*	
Piping Plover	*Charadrius melodus*	+
Killdeer	*Charadrius vociferus*	
Mountain Plover	*Charadrius montanus*	SC
Eurasian Dotterel	*Charadrius morinellus*	+
HAEMATOPODIDAE (Oystercatchers)		
American Oystercatcher	*Haematopus palliatus*	+
Black Oystercatcher	*Haematopus bachmani*	

RECURVIROSTRIDAE (Avocets and Stilts)		
Black-necked Stilt	*Himantopus mexicanus*	
American Avocet	*Recurvirostra americana*	
SCOLOPACIDAE (Sandpipers and relatives)		
Greater Yellowlegs	*Tringa melanoleuca*	
Lesser Yellowlegs	*Tringa flavipes*	
Spotted Redshank	*Tringa erythropus*	+
Solitary Sandpiper	*Tringa solitaria*	
Willet	*Catoptrophorus semipalmatus*	
Wandering Tattler	*Heteroscelus incanus*	
Gray-tailed Tattler	*Heteroscelus brevipes*	+
Spotted Sandpiper	*Actitis macularia*	
Terek Sandpiper	*Xenus cinereus*	+
Upland Sandpiper	*Bartramia longicauda*	+
Little Curlew	*Numenius minutus*	+
Whimbrel	*Numenius phaeopus*	
Long-billed Curlew	*Numenius americanus*	SC
Hudsonian Godwit	*Limosa haemastica*	+
Bar-tailed Godwit	*Limosa lapponica*	+
Marbled Godwit	*Limosa fedoa*	
Ruddy Turnstone	*Arenaria interpres*	
Black Turnstone	*Arenaria melanocephala*	
Surfbird	*Aphriza virgata*	
Red Knot	*Calidris canutus*	
Sanderling	*Calidris alba*	
Semipalmated Sandpiper	*Calidris pusilla*	
Western Sandpiper	*Calidris mauri*	
Rufous-necked Stint	*Calidris ruficollis*	+
Little Stint	*Calidris minuta*	+
Long-toed Stint	*Calidris subminuta*	+
Least Sandpiper	*Calidris minutilla*	
White-rumped Sandpiper	*Calidris fuscicollis*	+
Baird's Sandpiper	*Calidris bairdii*	
Pectoral Sandpiper	*Calidris melanotos*	
Sharp-tailed Sandpiper	*Calidris acuminata*	
Rock Sandpiper	*Calidris ptilocnemis*	
Dunlin	*Calidris alpina*	
Curlew Sandpiper	*Calidris ferruginea*	+
Stilt Sandpiper	*Calidris himantopus*	
Buff-breasted Sandpiper	*Tryngites subruficollis*	+
Ruff	*Philomachus pugnax*	
Short-billed Dowitcher	*Limnodromus griseus*	
Long-billed Dowitcher	*Limnodromus scolopaceus*	
Jack Snipe	*Lymnocryptes minimus*	+
Common Snipe	*Gallinago gallinago*	HA
Wilson's Phalarope	*Phalaropus tricolor*	
SCOLOPACIDAE (Sandpipers and relatives)		
Red-necked Phalarope	*Phalaropus lobatus*	
Red Phalarope	*Phalaropus fulicaria*	
Pomarine Jaeger	*Stercorarius pomarinus*	
Parasitic Jaeger	*Stercorarius parasiticus*	
Long-tailed Jaeger	*Stercorarius longicaudus*	
South Polar Skua	*Catharacta maccormicki*	

SCOLOPACIDAE (Sandpipers and relatives), cont.		
Laughing Gull	*Larus atricilla*	SC
Franklin's Gull	*Larus pipixcan*	
Little Gull	*Larus minutus*	+
Common Black-headed Gull	*Larus ridibundus*	+
Bonaparte's Gull	*Larus philadelphia*	
Heermann's Gull	*Larus heermanni*	
Mew Gull	*Larus canus*	
Ring-billed Gull	*Larus delawarensis*	
California Gull	*Larus californicus*	SC
Herring Gull	*Larus argentatus*	
Thayer's Gull	*Larus thayeri*	
Lesser Black-backed Gull	*Larus fuscus*	+
Yellow-footed Gull	*Larus livens*	
Western Gull	*Larus occidentalis*	
Glaucous-winged Gull	*Larus glaucescens*	
Glaucous Gull	*Larus hyperboreus*	
Black-legged Kittiwake	*Rissa tridactyla*	
Sabine's Gull	*Xema sabini*	
Gull-billed Tern	*Sterna nilotica*	SC
Caspian Tern	*Sterna caspia*	
Royal Tern	*Sterna maxima*	
Elegant Tern	*Sterna elegans*	SC
Sandwich Tern	*Sterna sandvicensis*	+
Common Tern	*Sterna hirundo*	
Arctic Tern	*Sterna paradisaea*	
Forster's Tern	*Sterna forsteri*	
Least Tern	*Sterna antillarum*	
California Least Tern	*S. a. browni*	CE, FE, CP
Sooty Tern	*Sterna fuscata*	+
Black Tern	*Chlidonias niger*	
Black Skimmer	*Rynchops niger*	SC
ALCIDAE (Auks, Murres, and Puffins)		
Common Murre	*Uria aalge*	
Thick-billed Murre	*Uria lomvia*	+
Pigeon Guillemot	*Cepphus columba*	
Marbled Murrelet	*Brachyramphus marmoratus*	CE
Kittlitz's Murrelet	*Brachyramphus brevirostris*	+
Xantus' Murrelet	*Synthliboramphus hypoleucus*	
Craveri's Murrelet	*Synthliboramphus craveri*	
Ancient Murrelet	*Synthliboramphus antiquus*	
Cassin's Auklet	*Ptychoramphus aleuticus*	
Parakeet Auklet	*Cyclorrhynchus psittacula*	+
Least Auklet	*Aethia pusilla*	+
Crested Auklet	*Aethia cristatella*	+
Rhinoceros Auklet	*Cerorhinca monocerata*	SC
Tufted Puffin	*Fratercula cirrhata*	SC
Horned Puffin	*Fratercula corniculata*	
COLUMBIFORMES (Pigeons and Doves)		
COLUMBIDAE (Pigeons and Doves)		
Rock Dove	*Columba livia*	I
Band-tailed Pigeon	*Columba fasciata*	HA

Ringed Turtle-Dove	*Streptopelia risoria*	I?
Spotted Dove	*Streptopelia chinensis*	I, HA
White-winged Dove	*Zenaida asiatica*	HA
Mourning Dove	*Zenaida macroura*	HA
Inca Dove	*Columbina inca*	
Common Ground-Dove	*Columbina passerina*	
Ruddy Ground-Dove	*Columbina talpacoti*	+

PSITTACIFORMES (Parrots and relatives)

PSITTACIDAE (Lories, Parakeets, Macaws, and Parrots)

Rose-winged Parakeet	*Psittacula krameri*	I?
Canary-winged Parakeet	*Brotogeris versicolurus*	I?
Red-crowned Parrot	*Amazona viridigenalis*	I?
Lilac-crowned Parrot	*Amazona finschi*	I?
Yellow-headed Parrot	*Amazona oratrix*	I?

CUCULIFORMES (Cuckoos and relatives)

CUCULIDAE (Typical Cuckoos)

Black-billed Cuckoo	*Coccyzus erythropthalmus*	+
Yellow-billed Cuckoo	*Coccyzus americanus*	
California Yellow-billed Cuckoo	*C. a. occidentalis*	CE
Greater Roadrunner	*Geococcyx californianus*	
Groove-billed Ani	*Crotophaga sulcirostris*	+

STRIGIFORMES (Owls)

TYTONIDAE (Barn Owls)

Common Barn Owl	*Tyto alba*	

STRIGIDAE (Typical Owls)

Flammulated Owl	*Otus flammeolus*	
Western Screech-Owl	*Otus kennicottii*	
Great Horned Owl	*Bubo virginianus*	
Snowy Owl	*Nyctea scandiaca*	+
Northern Pygmy-Owl	*Glaucidium gnoma*	
Elf Owl	*Micrathene whitneyi*	CE
Burrowing Owl	*Athene cunicularia*	SC
Spotted Owl	*Strix occidentalis*	SC
Northern Spotted Owl	*S. o. caurina*	FT
Barred Owl	*Strix varia*	+
Great Gray Owl	*Strix nebulosa*	CE
Long-eared Owl	*Asio otus*	SC
Short-eared Owl	*Asio flammeus*	SC
Northern Saw-whet Owl	*Aegolius acadicus*	

CAPRIMULGIFORMES (Goatsuckers and relatives)

CAPRIMULGIDAE (Goatsuckers)

Lesser Nighthawk	*Chordeiles acutipennis*	
Common Nighthawk	*Chordeiles minor*	
Common Poorwill	*Phalaenoptilus nuttallii*	
Chuck-will's-widow	*Caprimulgus carolinensis*	+
Whip-poor-will	*Caprimulgus vociferus*	

APODIFORMES (Swifts and Hummingbirds)		
APODIDAE (Swifts)		
Black Swift	*Cypseloides niger*	SC
White-collared Swift	*Streptoprocne zonaris*	+
Chimney Swift	*Chaetura pelagica*	
Vaux's Swift	*Chaetura vauxi*	
White-throated Swift	*Aeronautes saxatalis*	
TROCHILIDAE (Hummingbirds)		
Broad-billed Hummingbird	*Cyanthus latirostris*	+
Xantus' Hummingbird	*Hylocharis xantusii*	+
Violet-crowned Hummingbird	*Amazilia violiceps*	+
Blue-throated Hummingbird	*Lampornis clemenciae*	+
Ruby-throated Hummingbird	*Archilochus colubris*	+
Black-chinned Hummingbird	*Archilochus alexandri*	
Anna's Hummingbird	*Calypte anna*	
Costa's Hummingbird	*Calypte costae*	
Calliope Hummingbird	*Stellula calliope*	
Broad-tailed Hummingbird	*Selasphorus platycercus*	
Rufous Hummingbird	*Selasphorus rufus*	
Allen's Hummingbird	*Selasphorus sasin*	
CORACIIFORMES (Kingfishers and relatives)		
ALCEDINIDAE (Kingfishers)		
Belted Kingfisher	*Ceryle alcyon*	
PICIFORMES (Woodpeckers and relatives)		
PICIDAE (Woodpeckers and Wrynecks)		
Lewis' Woodpecker	*Melanerpes lewis*	
Red-headed Woodpecker	*Melanerpes erythrocephalus*	+
Acorn Woodpecker	*Melanerpes formicivorus*	
Gila Woodpecker	*Melanerpes uropygialis*	CE
Yellow-bellied Sapsucker	*Sphyrapicus varius*	
Red-naped Sapsucker	*Sphyrapicus nuchalis*	
Red-breasted Sapsucker	*Sphyrapicus ruber*	
Williamson's Sapsucker	*Sphyrapicus thyroideus*	
Ladder-backed Woodpecker	*Picoides scalaris*	
Nuttall's Woodpecker	*Picoides nuttallii*	
Downy Woodpecker	*Picoides pubescens*	
Hairy Woodpecker	*Picoides villosus*	
White-headed Woodpecker	*Picoides albolarvatus*	
Three-toed Woodpecker	*Picoides tridactylus*	+
Black-backed Woodpecker	*Picoides arcticus*	
Northern Flicker	*Colaptes auratus*	
Gilded Northern Flicker	*C. a. chrysoides*	CE
Pileated Woodpecker	*Dryocopus pileatus*	
PASSERIFORMES (Perching Birds)		
TYRANNIDAE (Tyrant Flycatchers)		
Olive-sided Flycatcher	*Contopus borealis*	
Greater Pewee	*Contopus pertinax*	+

Western Wood-Pewee	*Contopus sordidulus*	
Eastern Wood-Pewee	*Contopus virens*	+
Yellow-bellied Flycatcher	*Empidonax flaviventris*	+
Willow Flycatcher	*Empidonax traillii*	CE
Least Flycatcher	*Empidonax minimus*	
Hammond's Flycatcher	*Empidonax hammondii*	
Dusky Flycatcher	*Empidonax oberholseri*	
Gray Flycatcher	*Empidonax wrightii*	
Pacific-Slope Flycatcher	*Empidonax difficilis*	
Cordilleran Flycatcher	*Empidonax occidentalis*	
Black Phoebe	*Sayornis nigricans*	
Eastern Phoebe	*Sayornis phoebe*	
Say's Phoebe	*Sayornis saya*	
Vermilion Flycatcher	*Pyrocephalus rubinus*	SC
Dusky-capped Flycatcher	*Myiarchus tuberculifer*	+
Ash-throated Flycatcher	*Myiarchus cinerascens*	
Great Crested Flycatcher	*Myiarchus crinitus*	+
Brown-crested Flycatcher	*Myiarchus tyrannulus*	SC
Sulphur-bellied Flycatcher	*Myiodynastes luteiventris*	+
Tropical Kingbird	*Tyrannus melancholicus*	
Cassin's Kingbird	*Tyrannus vociferans*	
Thick-billed Kingbird	*Tyrannus crassirostris*	+
Western Kingbird	*Tyrannus verticalis*	
Eastern Kingbird	*Tyrannus tyrannus*	
Scissor-tailed Flycatcher	*Tyrannus forficatus*	+
ALAUDIDAE (Larks)		
Eurasian Skylark	*Alauda arvensis*	+
Horned Lark	*Eremophila alpestris*	
HIRUNDINIDAE (Swallows)		
Purple Martin	*Progne subis*	SC
Tree Swallow	*Tachycineta bicolor*	
Violet-green Swallow	*Tachycineta thalassina*	
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	
Bank Swallow	*Riparia riparia*	CT
Cliff Swallow	*Hirundo pyrrhonota*	
Barn Swallow	*Hirundo rustica*	
CORVIDAE (Jays, Magpies, and Crows)		
Gray Jay	*Perisoreus canadensis*	
Steller's Jay	*Cyanocitta stelleri*	
Blue Jay	*Cyanocitta cristata*	+
Scrub Jay	*Aphelocoma coerulescens*	
Pinyon Jay	*Gymnorhinus cyanocephalus*	
Clark's Nutcracker	*Nucifraga columbiana*	
Black-billed Magpie	*Pica pica*	
Yellow-billed Magpie	*Pica nuttalli*	
American Crow	*Corvus brachyrhynchos*	HA
Common Raven	*Corvus corax*	
PARIDAE (Titmice)		
Black-capped Chickadee	*Parus atricapillus*	SC
Mountain Chickadee	*Parus gambeli*	
Chestnut-backed Chickadee	*Parus rufescens*	

PARIDAE (Titmice), cont.		
Plain Titmouse	*Parus inornatus*	
REMIZIDAE (Verdin)		
Verdin	*Auriparus flaviceps*	
AEGITHALIDAE (Bushtit)		
Bushtit	*Psaltriparus minimus*	
SITTIDAE (Nuthatches)		
Red-breasted Nuthatch	*Sitta canadensis*	
White-breasted Nuthatch	*Sitta carolinensis*	
Pygmy Nuthatch	*Sitta pygmaea*	
CERTHIIDAE (Creepers)		
Brown Creeper	*Certhia americana*	
TROGLODYTIDAE (Wrens)		
Cactus Wren	*Campylorhynchus brunneicapillus*	
Coastal Cactus Wren	*C. b. sandiegoense*	SC
Rock Wren	*Salpinctes obsoletus*	
Canyon Wren	*Catherpes mexicanus*	
Bewick's Wren	*Thryomanes bewickii*	
House Wren	*Troglodytes aedon*	
Winter Wren	*Troglodytes troglodytes*	
Sedge Wren	*Cistothorus platensis*	+
Marsh Wren	*Cistothorus palustris*	
CINCLIDAE (Dippers)		
American Dipper	*Cinclus mexicanus*	
MUSCICAPIDAE (Old World Warblers, Gnatcatchers, Kinglets, Thrushes, Bluebirds, and Wrentit)		
Dusky Warbler	*Phylloscopus fuscatus*	+
Golden-crowned Kinglet	*Regulus satrapa*	
Ruby-crowned Kinglet	*Regulus calendula*	
Blue-gray Gnatcatcher	*Polioptila caerulea*	
Black-tailed Gnatcatcher	*Polioptila melanura*	SC
California Gnatcatcher	*Polioptila californica*	SC
Northern Wheatear	*Oenanthe oenanthe*	+
Western Bluebird	*Sialia mexicana*	
Mountain Bluebird	*Sialia currucoides*	
Townsend's Solitaire	*Myadestes townsendi*	
Veery	*Catharus fuscescens*	+
Gray-cheeked Thrush	*Catharus minimus*	+
Swainson's Thrush	*Catharus ustulatus*	
Hermit Thrush	*Catharus guttatus*	
Wood Thrush	*Hylocichla mustelina*	+
Rufous-backed Robin	*Turdus rufopalliatus*	+
American Robin	*Turdus migratorius*	
Varied Thrush	*Ixoreus naevius*	
Wrentit	*Chamaea fasciata*	
MIMIDAE (Mockingbirds and Thrashers)		
Gray Catbird	*Dumetella carolinensis*	+

Northern Mockingbird	*Mimus polyglottos*	
Sage Thrasher	*Oreoscoptes montanus*	
Brown Thrasher	*Toxostoma rufum*	
Bendire's Thrasher	*Toxostoma bendirei*	SC
Curve-billed Thrasher	*Toxostoma curvirostre*	+
California Thrasher	*Toxostoma redivivum*	
Crissal Thrasher	*Toxostoma crissale*	SC
Le Conte's Thrasher	*Toxostoma lecontei*	SC
MOTACILLIDAE (Wagtails and Pipits)		
Yellow Wagtail	*Motacilla flava*	+
Gray Wagtail	*Motacilla cinerea*	+
White Wagtail	*Motacilla alba*	+
Black-backed Wagtail	*Motacilla lugens*	+
Red-throated Pipit	*Anthus cervinus*	+
Water Pipit	Anthus spinoletta	
Sprague's Pipit	Anthus spragueii	+
BOMBYCILLIDAE (Waxwings)		
Bohemian Waxwing	*Bombycilla garrulus*	
Cedar Waxwing	*Bombycilla cedrorum*	
PTILOGONATIDAE (Silky Flycatchers)		
Phainopepla	*Phainopepla nitens*	
LANIIDAE (Shrikes)		
Brown Shrike	*Lanius cristatus*	+
Northern Shrike	*Lanius excubitor*	
Loggerhead Shrike	*Lanius ludovicianus*	
San Clemente Loggerhead Shrike	*L. l. mearnsi*	FE
STURNIDAE (Starlings)		
European Starling	*Sturnus vulgaris*	I
VIREONIDAE (Typical Vireos)		
White-eyed Vireo	*Vireo griseus*	+
Bell's Vireo	*Vireo bellii*	
Arizona Bell's Vireo	*V. b. arizonae*	CE
Least Bell's Vireo	*V. b. pusillus*	CE, FE
Gray Vireo	*Vireo vicinior*	SC
Solitary Vireo	*Vireo solitarius*	
Yellow-throated Vireo	*Vireo flavifrons*	+
Hutton's Vireo	*Vireo huttoni*	
Warbling Vireo	*Vireo gilvus*	
Philadelphia Vireo	*Vireo philadelphicus*	+
Red-eyed Vireo	*Vireo olivaceus*	
Yellow-green Vireo	*Vireo flavoviridis*	+
EMBERIZIDAE (Wood Warblers, Sparrows, Blackbirds, and relatives)		
Blue-winged Warbler	*Vermivora pinus*	+
Golden-winged Warbler	*Vermivora chrysoptera*	+
Tennessee Warbler	*Vermivora peregrina*	
Orange-crowned Warbler	*Vermivora celata*	
Nashville Warbler	*Vermivora ruficapilla*	
Virginia's Warbler	*Vermivora virginiae*	SC

EMBERIZIDAE (Wood Warblers, Sparrows, Blackbirds, and relatives), cont.		
Lucy's Warbler	*Vermivora luciae*	
Northern Parula	*Parula americana*	
Yellow Warbler	*Dendroica petechia*	
California Yellow Warbler	*D. p. brewsteri*	SC
Sonoran Yellow Warbler	*D. p. sonorana*	SC
Chestnut-sided Warbler	*Dendroica pensylvanica*	
Magnolia Warbler	*Dendroica magnolia*	
Cape May Warbler	*Dendroica tigrina*	
Black-throated Blue Warbler	*Dendroica caerulescens*	
Yellow-rumped Warbler	*Dendroica coronata*	
Black-throated Gray Warbler	*Dendroica nigrescens*	
Townsend's Warbler	*Dendroica townsendi*	
Hermit Warbler	*Dendroica occidentalis*	
Black-throated Green Warbler	*Dendroica virens*	
Golden-cheeked Warbler	*Dendroica chrysoparia*	+
Blackburnian Warbler	*Dendroica fusca*	
Yellow-throated Warbler	*Dendroica dominica*	+
Grace's Warbler	*Dendroica graciae*	+
Pine Warbler	*Dendroica pinus*	+
Prairie Warbler	*Dendroica discolor*	
Palm Warbler	*Dendroica palmarum*	
Bay-breasted Warbler	*Dendroica castanea*	
Blackpoll Warbler	*Dendroica striata*	
Cerulean Warbler	*Dendroica cerulea*	+
Black-and-white Warbler	*Mniotilta varia*	
American Redstart	*Setophaga ruticilla*	
Prothonotary Warbler	*Protonotaria citrea*	+
Worm-eating Warbler	*Helmitheros vermivorus*	+
Ovenbird	*Seiurus aurocapillus*	
Northern Waterthrush	*Seiurus noveboracensis*	
Louisiana Waterthrush	*Seiurus motacilla*	+
Kentucky Warbler	*Oporornis formosus*	+
Connecticut Warbler	*Oporornis agilis*	+
Mourning Warbler	*Oporornis philadelphia*	+
MacGillivray's Warbler	*Oporornis tolmiei*	
Common Yellowthroat	*Geothlypis trichas*	
Hooded Warbler	*Wilsonia citrina*	
Wilson's Warbler	*Wilsonia pusilla*	
Canada Warbler	*Wilsonia canadensis*	
Red-faced Warbler	*Cardellina rubrifrons*	+
Painted Redstart	*Myioborus pictus*	
Yellow-breasted Chat	*Icteria virens*	SC
Hepatic Tanager	*Piranga flava*	SC
Summer Tanager	*Piranga rubra*	SC
Scarlet Tanager	*Piranga olivacea*	+
Western Tanager	*Piranga ludoviciana*	
Northern Cardinal	*Cardinalis cardinalis*	SC, I[6]
Pyrrhuloxia	*Cardinalis sinuatus*	+
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	
Black-headed Grosbeak	*Pheucticus melanocephalus*	
Blue Grosbeak	*Guiraca caerulea*	

[6]Cardinals are native to California only marginally in the Colorado River Valley, other populations are of introduced subspecies.

Lazuli Bunting	*Passerina amoena*	
Indigo Bunting	*Passerina cyanea*	
Varied Bunting	*Passerina versicolor*	+
Painted Bunting	*Passerina ciris*	+
Dickcissel	*Spiza americana*	
Green-tailed Towhee	*Pipilo chlorurus*	
Rufous-sided Towhee	*Pipilo erythrophthalmus*	
California Towhee	*Pipilo crissalis*	
Inyo California Towhee	*P. c. eremophilus*	CE, FT
Abert's Towhee	*Pipilo aberti*	
Cassin's Sparrow	*Aimophila cassinii*	+
Rufous-crowned Sparrow	*Aimophila ruficeps*	
American Tree Sparrow	*Spizella arborea*	
Chipping Sparrow	*Spizella passerina*	
Clay-colored Sparrow	*Spizella pallida*	
Brewer's Sparrow	*Spizella breweri*	
Field Sparrow	*Spizella pusilla*	+
Black-chinned Sparrow	*Spizella atrogularis*	
Vesper Sparrow	*Pooecetes gramineus*	
Lark Sparrow	*Chondestes grammacus*	
Black-throated Sparrow	*Amphispiza bilineata*	
Sage Sparrow	*Amphispiza belli*	
San Clemente Sage Sparrow	*A. b. clementeae*	FT
Lark Bunting	*Calamospiza melanocorys*	
Savannah Sparrow	*Passerculus sandwichensis*	
Belding's Savannah Sparrow	*P. s. beldingi*	CE
Large-billed Savannah Sparrow	*P. s. rostratus*	SC
Baird's Sparrow	*Ammodramus bairdii*	+
Grasshopper Sparrow	*Ammodramus savannarum*	
Le Conte's Sparrow	*Ammodramus leconteii*	+
Sharp-tailed Sparrow	*Ammodramus caudacutus*	
Fox Sparrow	*Passerella iliaca*	
Song Sparrow	*Melospiza melodia*	
Suisun Song Sparrow	*M. m. maxillaris*	SC
San Pablo Song Sparrow	*M. m. samuelis*	SC
Alameda Song Sparrow	*M. m. pusillula*	SC
Lincoln's Sparrow	*Melospiza lincolnii*	
Swamp Sparrow	*Melospiza georgiana*	
White-throated Sparrow	*Zonotrichia albicollis*	
Golden-crowned Sparrow	*Zonotrichia atricapilla*	
White-crowned Sparrow	*Zonotrichia leucophrys*	
Harris' Sparrow	*Zonotrichia querula*	
Dark-eyed Junco	*Junco hyemalis*	
Gray-headed Junco	*J. h. caniceps*	SC
McCown's Longspur	*Calcarius mccownii*	
Lapland Longspur	*Calcarius lapponicus*	
Chestnut-collared Longspur	*Calcarius ornatus*	
Rustic Bunting	*Emberiza rustica*	+
Snow Bunting	*Plectrophenax nivalis*	
Bobolink	*Dolichonyx oryzivorus*	
Red-winged Blackbird	*Agelaius phoeniceus*	
Tricolored Blackbird	*Agelaius tricolor*	SC
Western Meadowlark	*Sturnella neglecta*	
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	
Rusty Blackbird	*Euphagus carolinus*	

EMBERIZIDAE (Wood Warblers, Sparrows, Blackbirds, and relatives), cont.		
Brewer's Blackbird	*Euphagus cyanocephalus*	
Great-tailed Grackle	*Quiscalus mexicanus*	
Common Grackle	*Quiscalus quiscula*	+
Bronzed Cowbird	*Molothrus aeneus*	
Brown-headed Cowbird	*Molothrus ater*	
Orchard Oriole	*Icterus spurius*	
Hooded Oriole	*Icterus cucullatus*	
Streak-backed Oriole	*Icterus pustulatus*	+
Northern Oriole	*Icterus galbula*	
Scott's Oriole	*Icterus parisorum*	
FRINGILLIDAE (Finches)		
Brambling	*Fringilla montifringilla*	+
Rosy Finch	*Leucosticte arctoa*	
Pine Grosbeak	*Pinicola enucleator*	
Purple Finch	*Carpodacus purpureus*	
Cassin's Finch	*Carpodacus cassinii*	
House Finch	*Carpodacus mexicanus*	
Red Crossbill	*Loxia curvirostra*	
White-winged Crossbill	*Loxia leucoptera*	+
Common Redpoll	*Carduelis flammea*	+
Pine Siskin	*Carduelis pinus*	
Lesser Goldfinch	*Carduelis psaltria*	
Lawrence's Goldfinch	*Carduelis lawrencei*	
American Goldfinch	*Carduelis tristis*	
Evening Grosbeak	*Coccothraustes vespertinus*	
PASSERIDAE (Old World Sparrows)		
House Sparrow	*Passer domesticus*	I

CLASS: MAMMALIA (Mammals)

MARSUPIALIA (Marsupials)		
DIDELPHIDAE (Opossums)		
Virginia Opossum	*Didelphis virginiana*	I, HA
INSECTIVORA (Insectivores)		
SORICIDAE (Shrews)		
Mt. Lyell Shrew	*Sorex lyelli*	SC
Vagrant Shrew	*Sorex vagrans*	
Salt-marsh Wandering Shrew	*S. v. halicoetes*	SC
Dusky (Montane) Shrew	*Sorex monticolus*	
Pacific Shrew	*Sorex pacificus*	
Ornate Shrew	*Sorex ornatus*	
Buena Vista Lake Shrew	*S. o. relictus*	SC
Monterey Ornate Shrew	*S. o. salarius*	SC
So. California Salt-marsh Shrew	*S. o. salicornicus*	SC
Suisun Shrew	*S. o. sinuosus*	SC
Santa Catalina Shrew	*S. o. willetti*	SC
Inyo Shrew	*Sorex tenellus*	
Water Shrew	*Sorex palustris*	
Marsh (Pacific Water) Shrew	*Sorex bendirii*	

Trowbridge's Shrew	*Sorex trowbridgii*	
Merriam's Shrew	*Sorex merriami*	
Desert Shrew	*Notiosorex crawfordi*	
TALPIDAE (Moles)		
Shrew-mole	*Neurotrichus gibbsii*	
Townsend's Mole	*Scapanus townsendii*	
Coast Mole	*Scapanus orarius*	
Broad-footed Mole	*Scapanus latimanus*	
CHIROPTERA (Bats)		
PHYLLOSTOMATIDAE (Leaf-nosed Bats)		
California Leaf-nosed Bat	*Macrotus californicus*	SC
Mexican Long-tongued Bat	*Choeronycteris mexicana*	SC
VESPERTILIONIDAE (Evening Bats)		
Little Brown Myotis	*Myotis lucifugus*	
Arizona Myotis	*M. l. occultus*	SC
Yuma Myotis	*Myotis yumanensis*	
Cave Myotis	*Myotis velifer*	
Long-eared Myotis	*Myotis evotis*	
Fringed Myotis	*Myotis thysanodes*	
Long-legged Myotis	*Myotis volans*	
California Myotis	*Myotis californicus*	
Western Small-footed Myotis	*Myotis ciliolabrum*	
Silver-haired Bat	*Lasionycteris noctivagans*	
Western Pipistrelle	*Pipistrellus hesperus*	
Big Brown Bat	*Eptesicus fuscus*	
Western Red Bat	*Lasiurus blossevillii*	
Hoary Bat	*Lasiurus cinereus*	
Southern Yellow Bat	*Lasiurus xanthinus*	
Spotted Bat	*Euderma maculatum*	SC
Townsend's Big-eared Bat	*Plecotus townsendii*	
Pale Big-eared Bat	*P. t. pallescens*	SC
Townsend's Western Big-eared Bat	*P. t. townsendii*	SC
Pallid Bat	*Antrozous pallidus*	SC
MOLOSSIDAE (Free-tailed Bats)		
Brazilian Free-tailed Bat	*Tadarida brasiliensis*	
Pocketed Free-tailed Bat	*Nyctinomops femorosacca*	SC
Big Free-tailed Bat	*Nyctinomops macrotis*	SC
Western Mastiff Bat	*Eumops perotis*	
California Mastiff Bat	*E. p. californicus*	SC
LAGOMORPHA (Rabbits, Hares, and Pikas)		
OCHOTONIDAE (Pikas)		
Pika	*Ochotona princeps*	
LEPORIDAE (Rabbits and Hares)		
Pygmy Rabbit	*Brachylagus idahoensis*	SC, HA
Brush Rabbit	*Sylvilagus bachmani*	HA
Riparian Brush Rabbit	*S. b. riparius*	SC, HA
Nuttall's (Mountain) Cottontail	*Sylvilagus nuttallii*	HA

LEPORIDAE (Rabbits and Hares), cont.		
Audubon's (Desert) Cottontail	*Sylvilagus audubonii*	HA
European Rabbit	*Oryctolagus cuniculus*	I
Snowshoe Hare	*Lepus americanus*	HA
Oregon Snowshoe Hare	*L. a. klamathensis*	SC, HA
Sierra Nevada Snowshoe Hare	*L. a. tahoensis*	SC, HA
White-tailed (Hare) Jackrabbit	*Lepus townsendii*	HA
Western White-tailed Hare	*L. t. townsendii*	SC, HA
Black-tailed (Hare) Jackrabbit	*Lepus californicus*	HA
RODENTIA (Squirrels, Rats, Mice, and relatives)		
APLODONTIDAE (Mountain Beaver)		
Mountain Beaver	*Aplodontia rufa*	
Sierra Nevada Mountain Beaver	*A. r. californica*	SC
Point Arena Mountain Beaver	*A. r. nigra*	SC
Point Reyes Mountain Beaver	*A. r. phaea*	SC
SCIURIDAE (Squirrels, Chipmunks, and Marmots)		
Alpine Chipmunk	*Tamias alpinus*	
Least Chipmunk	*Tamias minimus*	
Yellow-pine Chipmunk	*Tamias amoenus*	
Townsend's Chipmunk	*Tamias townsendii*	
Sonoma Chipmunk	*Tamias sonomae*	
Merriam's Chipmunk	*Tamias merriami*	
California Chipmunk	*Tamias obscurus*	
Long-eared Chipmunk	*Tamias quadrimaculatus*	
Lodgepole Chipmunk	*Tamias speciosus*	
Panamint Chipmunk	*Tamias panamintinus*	
Unita Chipmunk	*Tamias umbrinus*	
Yellow-bellied Marmot	*Marmota flaviventris*	
White-tailed Antelope Squirrel	*Ammospermophilus leucurus*	
San Joaquin (Nelson's) Antelope Squirrel	*Ammospermophilus nelsoni*	CT
Townsend's Ground Squirrel	*Spermophilus townsendii*	
Belding's Ground Squirrel	*Spermophilus beldingi*	
Rock Squirrel	*Spermophilus variegatus*	
California Ground Squirrel	*Spermophilus beecheyi*	
Mohave Ground Squirrel	*Spermophilus mohavensis*	CT
Round-tailed Ground Squirrel	*Spermophilus tereticaudus*	
Palm Springs Ground Squirrel	*S. t. chlorus*	SC
Golden-mantled Ground Squirrel	*Spermophilus lateralis*	
Gray Squirrel	*Sciurus carolinensis*	I, HA
Western Gray Squirrel	*Sciurus griseus*	HA
Fox Squirrel	*Sciurus niger*	I, HA
Douglas' Squirrel	*Tamiasciurus douglasii*	HA
Northern Flying Squirrel	*Glaucomys sabrinus*	
San Bernardino Flying Squirrel	*G. s. californicus*	SC
GEOMYIDAE (Pocket Gophers)		
Botta's Pocket Gopher	*Thomomys bottae*	
Amargosa Pocket Gopher	*T. b. amargosae*	SC
Townsend's Pocket Gopher	*Thomomys townsendii*	
Northern Pocket Gopher	*Thomomys talpoides*	
Western Pocket Gopher	*Thomomys mazama*	
Mountain Pocket Gopher	*Thomomys monticola*	

HETEROMYIDAE (Pocket Mice and Kangaroo Rats)		
Little Pocket Mouse	*Perognathus longimembris*	
Los Angeles Pocket Mouse	*P. l. brevinasus*	SC
Pacific Pocket Mouse	*P. l. pacificus*	SC
San Joaquin Pocket Mouse	*Perognathus inornatus*	
San Joaquin Pocket Mouse	*P. i. inornatus*	SC
Salinas Pocket Mouse	*P. i. psammophilus*	SC
Great Basin Pocket Mouse	*Perognathus parvus*	
White-eared Pocket Mouse	*Perognathus alticolus*	
White-eared Pocket Mouse	*P. a. alticolus*	SC
Tehachapi Pocket Mouse	*P. a. inexpectatus*	SC
Yellow-eared Pocket Mouse	*Perognathus xanthonotus*	
Long-tailed Pocket Mouse	*Chaetodipus formosus*	
Bailey's Pocket Mouse	*Chaetodipus baileyi*	
Desert Pocket Mouse	*Chaetodipus penicillatus*	
San Diego Pocket Mouse	*Chaetodipus fallax*	
California Pocket Mouse	*Chaetodipus californicus*	
Spiny Pocket Mouse	*Chaetodipus spinatus*	
Dark Kangaroo Mouse	*Microdipodops megacephalus*	
Pale Kangaroo Mouse	*Microdipodops pallidus*	
Ord's Kangaroo Rat	*Dipodomys ordii*	
Chisel-toothed Kangaroo Rat	*Dipodomys microps*	
Big-eared Kangaroo Rat	*Dipodomys elephantinus*	SC
Narrow-faced Kangaroo Rat	*Dipodomys venustus*	
Pacific (Agile) Kangaroo Rat	*Dipodomys agilis*	
Heermann's Kangaroo Rat	*Dipodomys heermanni*	
Marysville Kangaroo Rat	*D. h. eximus*	SC
Morro Bay Kangaroo Rat	*D. h. morroensis*	CE, FE, CP
California Kangaroo Rat	*Dipodomys californicus*	
Giant Kangaroo Rat	*Dipodomys ingens*	CE, FE
Panamint Kangaroo Rat	*Dipodomys panamintinus*	
Stephens' Kangaroo Rat	*Dipodomys stephensi*	CT, FE
Desert Kangaroo Rat	*Dipodomys deserti*	
Merriam's Kangaroo Rat	*Dipodomys merriami*	
San Joaquin (Fresno) Kangaroo Rat	*Dipodomys nitratoides*	
Tipton Kangaroo Rat	*D. n. nitratoides*	CE, FE
Fresno Kangaroo Rat	*D. n. exilis*	CE, FE
Short-nosed Kangaroo Rat	*D. n. brevinasus*	SC
CASTORIDAE (Beavers)		
Beaver	*Castor canadensis*	HA, I[9]
CRICETIDAE (Native Mice, Rats, and Voles)		
Western Harvest Mouse	*Reithrodontomys megalotis*	
So. Marsh Harvest Mouse	*R. m. limicola*	SC
Santa Cruz Harvest Mouse	*R. m. santacruzae*	SC
Salt-marsh Harvest Mouse	*Reithrodontomys raviventris*	CE, FE, CP
Cactus Mouse	*Peromyscus eremicus*	
California Mouse	*Peromyscus californicus*	
Deer Mouse	*Peromyscus maniculatus*	
Anacapa Island Deer Mouse	*P. m. anacapae*	SC
San Clemente Deer Mouse	*P. m. clementis*	SC

[9]Some populations were introduced into the Sierra Nevada and Southern California from stock taken from Oregon and Washington.

CRICETIDAE (Native Mice, Rats, and Voles), cont.		
Canyon Mouse	*Peromyscus crinitus*	
Brush Mouse	*Peromyscus boylii*	
Piñon (Pinyon) Mouse	*Peromyscus truei*	
Northern Grasshopper Mouse	*Onychomys leucogaster*	
Southern Grasshopper Mouse	*Onychomys torridus*	
Tulare Grasshopper Mouse	*O. t. tularensis*	SC
Hispid Cotton Rat	*Sigmodon hispidus*	
Yuma Cotton Rat	*S. h. eremicus*	SC
Arizona Cotton Rat	*Sigmodon arizonae*	
Colorado River Cotton Rat	*S. a. plenus*	SC
White-throated Woodrat	*Neotoma albigula*	
Desert Woodrat	*Neotoma lepida*	
Dusky-footed Woodrat	*Neotoma fuscipes*	
Riparian Woodrat	*N. f. riparia*	SC
Bushy-tailed Woodrat	*Neotoma cinerea*	
Western Red-backed Vole	*Clethrionomys californicus*	
Heather Vole	*Phenacomys intermedius*	
White-footed Vole	*Arborimus albipes*	SC
"California" Red Tree Vole	*Arborimus pomo*	SC
Montane Vole	*Microtus montanus*	
California Vole	*Microtus californicus*	
San Pablo Vole	*M. c. sanpabloensis*	SC
Owens Valley Vole	*M. c. vallicola*	SC
Amargosa Vole	*M. c. scirpensis*	CE, FE
Townsend's Vole	*Microtus townsendii*	
Long-tailed Vole	*Microtus longicaudus*	
Creeping Vole	*Microtus oregoni*	
Sagebrush Vole	*Lemmiscus curtatus*	
Muskrat	*Ondatra zibethicus*	HA, I[10]
MURIDAE (Old World Rats and Mice)		
Black Rat	*Rattus rattus*	I
Norway Rat	*Rattus norvegicus*	I
House Mouse	*Mus musculus*	I
ZAPODIDAE (Jumping Mice)		
Western Jumping Mouse	*Zapus princeps*	
Pacific Jumping Mouse	*Zapus trinotatus*	
Point Reyes Jumping Mouse	*Z. t. orarius*	SC
ERETHIZONTIDAE		
Porcupine	*Erethizon dorsatum*	
CARNIVORA (Carnivores)		
CANIDAE (Foxes, Wolves, and relatives)		
Coyote	*Canis latrans*	HA
Red Fox	*Vulpes vulpes*	I[11]
Sierra Nevada Red Fox	*V. v. necator*	CT
Kit Fox	*Vulpes macrotis*	

[10]Some populations in California were introduced.

[11]Red foxes native to California are of the subspecies *V. v. necator.* Members of other subspecies of red fox have been introduced to California.

San Joaquin Kit Fox	*V. m. mutica*	CT, FE
Gray Fox	*Urocyon cinereoargenteus*	HA
Island Fox (Channel Islands Gray Fox)	*Urocyon littoralis*	CT
URSIDAE (Bears)		
Black Bear	*Ursus americanus*	HA
OTARIIDAE (Eared Seals)		
Northern Fur Seal	*Callorhinus ursinus*	
Guadalupe Fur Seal	*Arctocephalus townsendi*	CT, FT
Northern (Steller's) Sea Lion	*Eumetopias jubatus*	FT
California Sea Lion	*Zalophus californianus*	
PROCYONIDAE (Raccoons and relatives)		
Ringtail	*Bassariscus astutus*	
Raccoon	*Procyon lotor*	HA
MUSTELIDAE (Weasels and relatives)		
Marten	*Martes americana*	
Fisher	*Martes pennanti*	
Pacific Fisher	*M. p. pacificus*	SC
Ermine	*Mustela erminea*	HA
Long-tailed Weasel	*Mustela frenata*	HA
Mink	*Mustela vison*	HA
Wolverine	*Gulo gulo*	CT, CP
Badger	*Taxidea taxus*	SC, HA
Western Spotted Skunk	*Spilogale gracilis*	HA
Channel Islands Spotted Skunk	*S. g. amphiala*	SC, HA
Striped Skunk	*Mephitis mephitis*	HA
River Otter	*Lutra canadensis*	
Southwestern River Otter	*L. c. sonorae*	SC
Sea Otter	*Enhydra lutris*	
Southern Sea Otter	*E. l. nereis*	FT, CP
PHOCIDAE (Hair Seals)		
Harbor Seal	*Phoca vitulina*	
Ribbon Seal	*Histriophoca fasciata*	+
Northern Elephant Seal	*Mirounga angustirostris*	
FELIDAE		
Mountain Lion	*Felis concolor*	
Yuma Mountain Lion	*F. c. browni*	SC
Bobcat	*Felis rufus*	HA
Domestic Cat	*Felis cattus*	I
CETACEA (Whales)		
ESCHRICHTIIDAE (Gray Whale)		
Gray Whale	*Eschrichtius robustus*	FE
BALAENOPTERIDAE (Rorquals)		
Minke Whale	*Balaenoptera acutorostrata*	+
Sei Whale	*Balaenoptera borealis*	FE +
Blue Whale	*Balaenoptera musculus*	FE +
Fin (Finback) Whale	*Balaenoptera physalus*	FE +

BALAENOPTERIDAE (Rorquals), cont.		
Hump-backed (Humpback) Whale	*Megaptera novaeangliae*	FE +
BALAENIDAE (Right Whales)		
Black Right Whale	*Balaena glacialis*	FE +
Pacific Right Whale	*B. g. japponica*	CP +
DELPHINIDAE (Delphinids)		
Rough-toothed Dolphin	*Steno bredanensis*	
Bottle-nosed Dolphin	*Tursiops truncatus*	
Pantropical Spotted Dolphin	*Stenella attenuata*	
Striped Dolphin	*Stenella coeruleoalba*	
Common (Saddle-backed) Dolphin	*Delphinus delphis*	
Pacific White-sided Dolphin	*Lagenorhynchus obliquidens*	
Grampus (Risso's Dolphin)	*Grampus griseus*	
False Killer Whale	*Pseudorca crassidens*	
Short-finned Pilot Whale	*Globicephala macrorhynchus*	
Killer Whale (Orca)	*Orcinus orca*	
Northern Right-whale Dolphin	*Lissodelphis borealis*	
PHOCOENIDAE (Porpoises)		
Harbor Porpoise	*Phocoena phocoena*	
Dall's Porpoise	*Phocoenoides dalli*	
ZIPHIIDAE (Beaked Whales)		
North Pacific Bottle-nosed Whale	*Berardius bairdii*	
Goose-beaked Whale	*Ziphius cavirostris*	
North Pacific (Bering Sea) Beaked Whale	*Mesoplodon stejnegeri*	
Moore's (Arch-beaked) Beaked Whale	*Mesoplodon carlhubbsi*	
Dense-beaked Whale	*Mesoplodon densirostris*	
KOGIIDAE (Pygmy Sperm Whales)		
Pygmy Sperm Whale	*Kogia breviceps*	
Dwarf Sperm Whale	*Kogia simus*	
PHYSETERIDAE (Sperm Whale)		
Sperm Whale	*Physeter macrocephalus*	FE
PERISSODACTYLA (Horses, Tapirs, and relatives)		
EQUIDAE (Horses)		
Feral Horse	*Equus caballus*	I
Feral Burro	*Equus assinus*	I
Burchell's Zebra	*Equus burchelli*	I
ARTIODACTYLA (Even-toed Ungulates)		
SUIDAE (Pigs)		
Wild Pig	*Sus scrofa*	I, HA
CERVIDAE (Deer, Elk, and relatives)		
Wapiti or Elk	*Cervus elaphus*	HA, I[12]

[12]Elk native to California are Roosevelt (*C. e. roosevelti*) and tule (*C. e. nannodes*) elk. Rocky Mountain elk (*C. e. nelsoni*) have been introduced to California.

Fallow Deer	*Cervus dama*	I, HA
Sambar	*Cervus unicolor*	I, HA
Axis Deer	*Cervus axis*	I, HA
Mule Deer	*Odocoileus hemionus*	HA
ANTILOCAPRIDAE (Pronghorn)		
Pronghorn	*Antilocapra americana*	HA
BOVIDAE (Sheep, Goats, and relatives)		
Feral Cattle	*Bos taurus*	I
Bison	*Bison bison*	I
Blackbuck	*Antilope cervicapra*	I
Bighorn (Mountain) Sheep	*Ovis canadensis*	
California Bighorn Sheep	*O. c. californiana*	CT, CP
Peninsular Bighorn Sheep	*O. c. cremnobates*	CT, CP
Nelson's Bighorn Sheep	*O. c. nelsoni*	CP, HA[13]
Barbary Sheep	*Ammotragus lervia*	I, HA
Himalayan Tahr	*Hemitragus jemlahicus*	I, HA
Feral Goat	*Capra hircus*	I, HA

[13] *O. c. nelsoni* is fully protected except in areas where it is legally hunted.

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Ron Jurek, Darlene McGriff, and Kent Smith provided information on current state and federal status. John Brode, Hartwell Welch, David Wake, and Robert C. Stebbins commented on the amphibian and reptile list and David Wake graciously provided us with information of recent additions to the amphibian fauna of California. Don Roberson, Burt L. Monroe, Jr., Ned K. Johnson, Jeri Langham, and Kimball Garrett generously provided us with information about pending changes in the nomenclature and status of a number of birds. Information on the bats was provided by Caryla Larsen. Ken Mayer, Darlene McGriff, Robert Schmidt, and Kent Smith kindly reviewed the manuscript for overall accuracy and Sandra Young provided editorial suggestions. We would especially like to acknowledge the assistance of Mark Jennings who reviewed the entire manuscript and made many helpful suggestions.

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MERCURY IN WESTERN GREBES AT LAKE BERRYESSA AND CLEAR LAKE, CALIFORNIA

E. E. LITTRELL
California Department of Fish and Game
Pesticide Investigations Unit
1701 Nimbus Road, Suite F
Rancho Cordova, California 95670

Mortalities of western grebes (*Aechmophorus occidentalis*) occurred at Lake Berryessa, Napa County, California in 1982 and 1986. Kidney and liver tissues of those birds and others from Lake Berryessa and Clear Lake were analyzed to determine if mercury, known to occur in these locations, was present at deleterious levels. Residue analyses indicated mercury was present at hazardous levels (20 ppm, wet weight) in the two instances.

INTRODUCTION

In 1982 and 1986 western grebes died at Lake Berryessa, Napa County, California. The California Department of Fish and Game (CDFG) Pesticide Investigations Unit received sample birds to determine the cause of death. Common causes of death in California wildlife include trauma, disease, and natural or synthetic toxic compounds. Organochlorines were used at Clear Lake, approximately 40 km distant, in the 1950's for midge control and resulted in bird mortalities (Hunt and Bischoff 1960, Herman et al. 1969). Mercury is found in abundance in these drainages (Davis and Bailey 1966), and occurs at elevated concentrations in fish (Water Resources Control Board 1990). The present investigation therefore centered on organochlorines and mercury.

METHODS

Eight grebes were found dead at Lake Berryessa in April 1982 and six grebes were reported dead in March 1986. The eight birds in 1982 and two of the six in 1986 were submitted for analysis. Since the birds died from unknown causes they were fluoroscoped and also examined for signs of disease and trauma by the CDFG Wildlife Investigations Laboratory. Brains, livers, and kidneys were removed using chemically clean dissection tools and placed into jars rinsed with acetone and hexane for organochlorines, and additionally with nitric acid for mercury. Aluminum foil cap liners were used. Brain and liver were examined in birds found dead in 1982 for the presence of organochlorines. Residues of organochlorines were determined by gas chromatography using standard methods. The spectrophotometric method of Hatch and Ott (1967) was used for mercury residue detection.

Control birds were collected from Lake Berryessa and Clear Lake. Twelve grebes were shot at Lake Berryessa from a boat in March 1983, and twenty grebes

were shot at Clear Lake in March 1984. Birds collected by shooting were refrigerated for up to four days before freezing. Birds were thawed overnight and livers and kidneys were excised using standard necropsy equipment except that plastic or teflon-coated forceps were used. Tissues were placed into jars that had been rinsed with dilute nitric acid, closed with caps having aluminum foil liners, and refrozen.

RESULTS AND DISCUSSION

No obvious signs of trauma or infectious disease were noted in any of the birds upon examination at the CDFG Wildlife Investigations Laboratory.

Brain and liver tissues of the eight western grebes found dead at Lake Berryessa in 1982 had organochlorine residues that were not considered lethal. These residue concentrations were 22 parts per million (ppm) P.P DDE in brain and 37 ppm P.P DDE in liver (wet weight). Typically, the toxic effects of DDE would occur above 250 ppm in brain tissue (Ohlendorf et al. 1981). These birds, however, had deleterious mercury residues of 20.2 ppm (wet weight) in the kidneys which may have contributed to their deaths (Table 1). This was in a composite sample and so is an average. Finley et al. (1979) suggested values above 20 ppm in soft tissues were "extremely hazardous" to wildlife.

Grebes were again found dead at Lake Berryessa in 1986. Mercury concentrations in the liver were 2.7 and 23.3 ppm in two birds examined. Kidney values were 2.1 and 6.5 ppm. One of these birds had mercury at a concentration above the "extremely hazardous" level (20 ppm) of Finley et al. (1979) and may indicate mercury poisoning contributed to its death. Mercury concentrations in grebes shot at Lake Berryessa in 1983 were 1.1 to 9.0 ppm in kidneys and 2.7 to 11.8 ppm in livers. Mercury levels in grebes shot at Clear Lake in 1984 were 3.7 to 9.8 ppm in livers. The ratio of kidney mercury residues to liver mercury residues is consistent with an

Table 1. Mercury concentrations (ppm, fresh weight) in western grebes from Lake Berryessa and Clear Lake, California.

Location	Year	Tissue	Concentrations	
			Geometric Mean	Range (*n*)
Found Dead				
Lake Berryessa	1982	kidney	20.2(8)[a]	---
Lake Berryessa	1986	kidney	3.7	2.1 to 6.5 (2)
		liver	7.9	2.7 to 23.3 (2)
Control				
Lake Berryessa	1983	kidney	2.5	1.1 to 9.0 (12)
		liver	5.2	2.7 to 11.8 (12)
Clear Lake	1984	liver	6.1	3.7 to 9.8 (20)

[a]Arithmetic mean of a composite of 8 birds.

exposure to methylmercury (Scheuhammer 1987) as would be expected in a lake environment. No selenium analyses were made to determine the possibility of antagonistic effects. Grebes found dead contained higher mercury residues in kidney and liver than those collected by shotgun.

The coast range province of California, which contains known mercury deposits (Davis and Bailey 1966), could be a hazardous area for piscivorous water birds. Unusual localized mortalities could suggest mercury poisoning. Elimination by diagnosticians of the common avian diseases as the cause of death also could suggest the need for an investigation into mercury poisoning. Liver or kidney analysis for mercury and a finding of levels over 20 ppm (wet weight) is suggestive of mercury poisoning (Finley et al. 1979). Examination of kidney, brain, and spinal cord tissues of recently deceased birds would assist in diagnosis and this will be done in future California mortalities as possible.

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FIRST RECORD OF THE LEATHER BASS (*EPINEPHELUS DERMATOLEPIS,* BOULENGER) IN SOUTHERN CALIFORNIA

ROBERT H. MOORE[1]
Vantuna Research Group
Occidental College
Los Angeles, CA

On 4 August 1988 a leather bass (*Epinephelus dermatolepis,* Boulenger 1895) (Family Serranidae)(Fig. 1), also known as *Dermatolepis punctatus* and *Dermatolepis dermatolepis* (Smith,1971), was collected in El Segundo, Los Angeles County, California, at the Scattergood Generating Station (City of Los Angeles, Department of Water and Power) lat. 33°55'07", long. 118°25'39", during a routine heat-treatment procedure to control biofouling on pipe surfaces. The leather bass became entrained on the traveling screens inside the plant. The specimen was a 5.4 kg male, measuring 640 mm in total length and 560 mm in standard length. It had a light brown background color mottled with white blotches and very faint bars, everywhere overlayed by smaller round black spots. The rayed sections of all of the fins had a 5-6 mm wide bright yellow border. The body was compressed, with the dorsal profile having a distinctive upsweep from the mouth to a crest at the dorsal fin, while the ventral profile was relatively straight back to the vent, thus highlighting its very deep-bodied appearance. This shape distinguishes it readily from the other species of *Epinephelas* reported from California, the spotted cabrilla (*E. analogus*) the snowy

Figure 1. Specimen of leather bass (*Epinephelas dermatolepis*) collected at El Segundo, CA. on 4 August 1988. Photograph by the author.

[1]Current address: MBC Applied Environmental Sciences, 947 Newhall St., Costa Mesa, CA 92627.

grouper (*E. niveatus*) and the gulf coney (*E. acanthistius*) (Lea and Fukahara 1991), all of which have curved dorsal and ventral outlines very similar in shape. Juvenile leather bass have the same body profile as the adult, but lack the spot pattern seen in the adult, having broad dark bars on a light background. They develop a variety of color patterns as they become adults. Thomson, Findley and Kerstitch (1979) and Burgess and Axelrod (1984) include good color photos showing the different color patterns of the species.

The leather bass occurs on the Pacific coast of Mexico to Ecuador, at Cape San Lucas, Baja California Sur (BCS), Mexico, in the Revillagigedos Islands, Mexico and Galapagos Islands, Ecuador (Jordan and Evermann 1896, Snodgrass and Hellerman 1905), and also north into the Gulf of California (Osburn and Nichols 1915, Thomson et al. 1979) at depths from the surface to at least 37 m (120 ft) (Fitch 1953). Fitch (1953) provided a range extension along the west coast of Baja California to Point Pescadero, BCS, Mexico, 55 km (30 nm) north of Cape San Lucas, and Smith (1971) examined a specimen from Magdalena Bay, BCS, Mexico, 209 km (113 nm) north of Cape San Lucas. The specimen from El Segundo represents a northern range extension of 1,018 km (550 nm) north of Magdalena Bay. The species has not previously been recorded in the United States (Hubbs, Follett, and Dempster 1979, Eschmeyer, Herald, and Hammann 1983, Robins et. al. 1991).

Most groupers live in tropical and subtropical waters, and none are commonly found in southern California (Hubbs et al. 1979, Eschmeyer et al. 1983). Smith (1971) states that most groupers prefer rocky reefs and are not thought to stray far from cover. My personal observations of the species in Galapagos Islands were that it stayed very close to cover during the day. Smith (1971) also notes that some young-of-the-year groupers are collected hundreds of miles north of their natural habitat in the Atlantic, probably due to passive transport by oceanic currents. The California specimen may have been transported north as a larva during the El Niño event of the early 1980's, when warm tropical water flowed into California. Robert Lavenberg of the Los Angeles County Museum examined an otolith from this specimen, and indicated that it was nine years old, ± six months. There have been several recent observations of tropical fish in California: the Cortez angelfish (*Pomacanthus zonipectus*) (Lea, Duffy, and Wilson, 1988); the blue-bronze chub (*Kyphosus analogus*) and blue-striped chub (*Sectator ocyurus*) (Brooks 1987); and other species are detailed by Mearns (1988).

The site where the specimen was collected is unique in having three power plant thermal discharges within 0.8 km (0.5 mi) of each other. Each of these is essentially a small reef with a plume of elevated water temperature, which could provide a suitable habitat for settlement of a leather bass larva. Because of the surrounding cooler water, it is unlikely that the leather bass will become more than an occasional visitor to California waters. The specimen has been deposited at the Los Angeles County Museum of Natural History, catalogue number 44895-1.

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NOTE ON THE OCCURRENCE AND RANGE EXTENSION OF THE SAILFISH (*ISTIOPHORUS PLATYPTERUS*) OFF DANA POINT, CALIFORNIA

MALCOLM S. OLIPHANT
Marine Resources Division
California Department of Fish and Game
330 Golden Shore, Suite 50
Long Beach, CA 90802

On the morning of 7 September 1990, Mr. Rodger Busch of Orange, California caught a sailfish (*Istiophorus platypterus*) off Dana Point, CA. He had been fishing for mackerel to be used as marlin bait at the red buoy about 500 yds outside the mouth of Dana Point Harbor at lat. 33°27' 16" N., long. 117°41'12" W. when he noticed the dorsal fin of the sailfish, threw it a baited hook, and caught and landed the fish.

I had the opportunity to examine, measure, and photograph this sailfish through the courtesy of Jon's Fish Market at Dana Point Harbor. Approximately 2 inches of the bill had been broken in landing, so I took an alternate measurement from the origin of the dorsal to the fork of the tail, which was 44 in (1,118 mm). R. N. Lea of the California Department of Fish and Game extrapolated this measurement to a fork length of 62.6 in (1,590 mm). The fish weighed 22.6 lbs (10.3 kg) when first brought into Jon's Fish Market. The fin counts were D XL11+7, and A XV+6.

The previous northern range of the sailfish as reported by Miller and Lea (1972) was San Diego. This record thus represents a range extension northward of approximately 50 naut. miles.

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NOTES ON THE DISTRIBUTION AND MORPHOLOGY OF THE RUBYNOSE BROTULA (*CATAETYX RUBRIROSTRIS*) OFF CENTRAL CALIFORNIA

M.A. GIBBS[1]
Moss Landing Marine Laboratories
P.O. Box 450
Moss Landing, CA 95039-0450

The Rubynose Brotula (*Cataetyx rubrirostris*, Ophidiiformes: Bythitidae), has been recorded in small numbers from South Coronado Island, Mexico to the northern Oregon coast, primarily from trawls taken in the mesopelagic zone to depths of 1,000 m (Jordan and Evermann 1900, Grinols and Greenfield 1966). Other members of the family Bythitidae are primarily benthic, living at or near the bottom at nearly all depths. The genus is found in all tropical and temperate oceans from the continental shelf to abyssal depths (Nielsen 1986). *C. rubrirostris* is viviparous and has pelagic young which are not uncommon in the southern California plankton (Mead et al. 1964). However, the species has remained relatively unknown; it is not mentioned by Miller and Lea (1972) and is only marginally noted by Fitch and Lavenberg (1968). Anderson et al. (1979) reported *C. rubrirostris* as a new record in Monterey Bay. Thus, the capture of 31 specimens of *C. rubrirostris* (Fig. 1) over a six-month period in the Monterey Bay area justified a re-evaluation of its relative abundance and an additional description of its morphology.

Between June and December 1989, 33 tows were made in the Monterey and Carmel submarine canyons, using a 3 m Tucker Trawl at discrete depths from 50-1,700 m. The tows were predominantly at night and mainly in the deep scattering

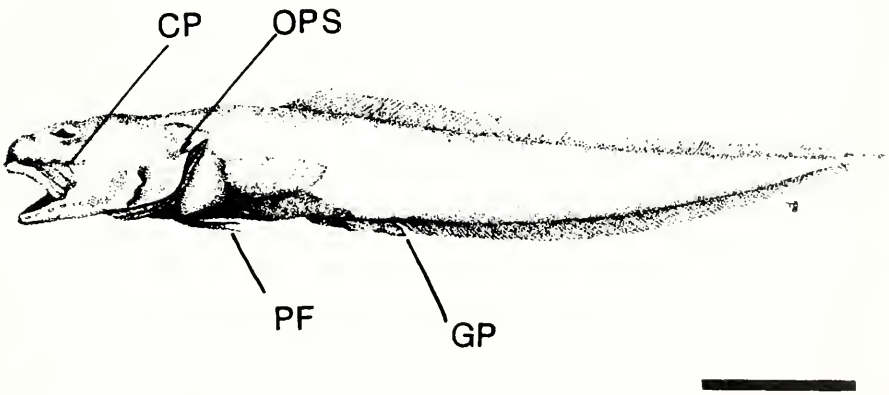

Fig. 1. Illustration of adult *Cataetyx rubrirostris* Gilbert. Note: opercular spine (OPS), cephalic mucous pores (CP), filamentous pelvic fins (PF), genital papilla (GP). Scale = 10 mm.

[1]Current address: School of Life and Health Sciences, University of Delaware, Newark, DE 19716.

Table 1. Specimens used in the present study.

Accession number	No. of specimens	Size range (mm SL)	Date of capture	Depth of capture (m)	Latitude	Longitude
LACM 44984-1	1	78	7 Dec 89	600	36°48.1' N	122°02.0' W
CAS 73111	1	128	5 Dec 89	900	36°46.5' N	121°59.4' W
MLML MW-147	3	28-80	7 Dec 89	<600	36°48.1' N	121°55.4' W
MLML MW-148	1	30	6 Dec 89	650	36°46.0' N	122°30.5' W
MLML MW-149	2	28-68	5 Dec 89	500	36°45.9' N	122°00.2' W
MLML MW-150	2	30-33	7 Dec 89	780	36°45.9' N	121°58.5' W
MLML MW-151	2	29-30	26 Oct 89	350	36°33.2' N	122°01.5' W
MLML MW-152	7	29-34	24 Oct 89	<400	36°35.6' N	122°11.1' W
MLML MW-153	1	27	6 Dec 89	500	36°35.9' N	122°23.6' W
MLML MW-154	1	31	7 Dec 89	600	36°45.9' N	122°01.6' W
MLML MW-155	1	27	27 Jun 89	690	36°45.6' N	122°01.5' W
MLML MW-156	2	27-32	5 Dec 89	400	36°46.0' N	122°01.2' W
MLML MW-157	1	26	3 Oct 89	<400	36°47.1' N	121°55.4' W
MLML MW-158	6	29-50	26 Oct 89	350	36°41.2' N	122°05.6' W
From LSMITH	1	31	n.a.	325	36°46.6' N	121°57.7' W
From LSMITH	1	30	n.a.	360	36°46.6' N	121°57.6' W
From LSMITH	1	29	n.a.	425	36°46.2' N	121°57.6' W
From GRINOLS	1	105	8 Aug 61	650	45°57' N	124°48' W
From GRINOLS	1	91	24 Jan 63	740	44°23' N	124°56' W

LACM = Los Angeles County Museum; CAS = California Academy of Sciences; MLML = Moss Landing Marine Laboratories; LSMITH = Specimens donated by L. Smith of Moss Landing Marine Laboratories; GRINOLS = Data taken from Grinols and Greenfield (1966). Except for LSMITH and GRINOLS, each accession number represents one tow; n.a. = not available.

layer (DSL). Specimens were preserved in 10% formaldehyde and later stored in 70% ethanol in collections at several institutions (Table 1).

Thirty-one specimens of *C. rubrirostris* were taken in 14 tows at depths between 300 and 900 m. My specimens agreed with Grinols and Greenfield's (1966) general description, and ranged in size from 26 to 128 mm standard length (SL) (Table 1). Five of the six individuals over 50 mm had genital papillae, whereas no genital papilla could be seen in specimens under 50 mm. It was thus assumed that the smaller individuals were younger and immature.

Small *C. rubrirostris* had virtually clear bodies that became creamy and opaque with increasing size. The peritoneum and buccal areas of all specimens were black. In individuals over 50 mm, body color was darker at lateral body margins, the opercular area and the base of the fins; in 60 mm specimens, the whole body was pigmented, as were the outer edges of the pectoral, dorsal, and anal fins. The head was darker than the body, especially around the mouth and operculum. In the largest individual the entire body was brownish-grey and the fins dark. The red rostral pigmentation which gives *C. rubrirostris* its name was most apparent in smaller

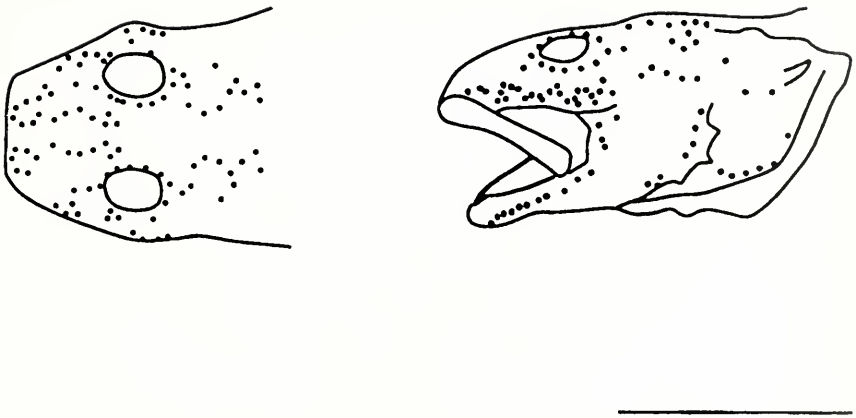

Fig. 2. Typical pattern of cephalic papillae of *Cataetyx rubrirostris*. Scale = 10 mm.

individuals. As individuals mature the red pigmentation turns brown and eventually is lost in the darker pigment on the head. The brain was visible through the top of the skull in all sizes collected.

Identical arrays of cephalic papillae were found in each specimen (Fig. 2), and were in approximately the same pattern as the cephalic lateral line system.

The data I collected for depth of occurrence plus data for five additional specimens from Grinols and Greenfield (1966) and L. Smith (pers. comm.), reveal a known depth range of 300-900 m for *C. rubrirostris*. The larvae are pelagic and seem to spend the larval stage in the DSL (Mead et al. 1964). I also found some large specimens in the DSL, which suggests that these fish may feed in the scattering layer.

C. rubrirostris has been considered an uncommon deep-sea fish since it was first described (Gilbert 1890). However, *C. rubrirostris* occurred in 42 percent of the 33 mid-water tows in the present study, making it one of the top 10 species in frequency of occurrence. The most common species captured in this study were: *C. rubrirostris*, *Chauliodus macouni*, *Cyclothone acclinidens*, *Cyclothone signata*, *Lampanyctus ritteri*, *Leuroglossus stilbius*, *Lycodapus fierasfer*, *Melamphaid* spp., *Melanostigma pammelas*, and *Sternoptyx diaphana*.

I am indebted to J. O'Sullivan, G. van Dykhuizen, B. Robison and K. Reisenbichler for ship time, during which the crew of the R.V. Pt. Sur made my work both pleasant and productive. L. Smith gave me three larval specimens. R. Lea, G. Cailliet, and F. Gibbs were valuable sources of information.

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MOUNTAIN BEAVER (*APLODONTIA RUFA*) FROM INYO COUNTY, CALIFORNIA

Vernon C. Bleich and Denyse Racine
California Department of Fish and Game
407 W. Line Street
Bishop, CA 93514

The mountain beaver (*Aplodontia rufa*) is a large, primitive sciuromorph rodent, and the only living member of the Aplodontidae (Hall 1981). Seven subspecies currently are recognized; four of these (*A. r. rainieri, A. r. rufa, A. r. pacifica, A. r. humboltiana*) have an extensive, contiguous distribution, ranging from southwestern British Columbia, southward through western Washington and western Oregon, and into northwestern California (Hall 1981). However, two geographically isolated subspecies (*A. r. phaea, A. r. nigra*) occur along the northern coast of California , and a third noncontiguous subspecies (*A. r. californica*) ranges from near Mount Shasta southeastward through the Sierra Nevada (Hall 1981, Williams 1986, Steele 1989). The subspecies *phaea* and *rufa* are considered to be mammals of "special concern" in California (Williams 1986), and both are candidates for addition to the Federal list of endangered and threatened species (Steele 1989).

Although this species occurs as far south as Sequoia National Park on the west-facing slope of the Sierra Nevada (Ingles 1965), records from east of the Sierra Crest are uncommon. For example, of 147 specimens of *A. r. californica* examined by Steele (1989), only 17 were from Mono County, and all of those were collected at Mammoth Lakes. Harris (1982) and Steele (1989) also reported populations of mountain beaver along Lee Vining Creek, Mono County, and Steele (1989) reported a population at Dead Man Creek, Mono County. Although Steele (1989) referred to *californica* as endemic to California, Hall (1946) lists a specimen from near Lakeview, Washoe County, Nevada; we were unable to ascertain the precise location of Lakeview, but it appears to be east of the Sierra Crest. In any event, the southernmost record of mountain beaver from east of the Sierra Crest is from Mammoth Lakes. In this note we provide a new distributional record of this species from approximately 50 km SE of Mammoth Lakes, and the first record of *A. rufa* for Inyo County, California.

On 22 June 1988, we obtained an adult, male *A. r. californica* from near the confluence of Coyote Creek and Bishop Creek, 8 km W of Bishop, Inyo County, California, at an elevation of approximately 1,750 m. Coyote Creek is a perennial stream, having east and west forks, totaling approximately 18 km in length. Six major drainages contribute ephemeral flows to Coyote Creek, between its upper reaches at approximately 3,200 m, and its confluence with Bishop Creek.

The fresh mountain beaver carcass was found floating in Coyote Creek, after an extremely heavy, but brief, thundershower. It is probable that the animal was washed into Coyote Creek during the intense storm, and it may have been recovered some distance from where it entered the stream. Standard measurements (mm) of the

specimen are 315-15-54-7; no weight was determined. The animal was prepared as a museum skin, skeleton, and a cleared and stained glans penis, and is deposited in the Bird and Mammal Collection, California State University, Long Beach (CSULB 11953).

On 15 March 1990, we conducted a helicopter survey of Bishop Creek, and Coyote Creek and its tributaries, in an attempt to locate potential mountain beaver habitat (Beier 1989, Steele 1989). We found suitable-appearing habitat consisting of willow patches and small meadows at several locations adjacent to Coyote Creek, at elevations ranging from 1,750 to 3,100 m. Some snow cover was present, however, and we could not inspect those sites more thoroughly as it was unsafe to land the helicopter. Thus far, we have been unable to conduct any detailed ground surveys, and the aforementioned sites await more formal evaluation.

Beier (1989) concluded that mountain beaver occur in small patches of high elevation, steep, moist habitat, and that populations often are isolated by distance and topography; he also noted that the Sierra Nevada apparently offer only marginal habitat conditions. Williams (1986) and Steele (1989) described the habitat of the Mono Lake population as unique, because it was surrounded by semi-desert vegetation (Sagebrush Series; Paysen et al. 1980). Much of the vegetation surrounding Coyote Creek is typical of the Sagebrush Series.

The unexpected presence of this species some 50 km SE of the heretofore closest published locality record suggests that additional isolated populations may occur along the numerous streams draining the eastern Sierra Nevada in Mono and Inyo counties. A better understanding of the distribution of this species is desirable, because of its implications for land management decisions affecting riparian habitats. Indeed, Beier (1989) noted that road building, livestock grazing, and herbicide applications influence suitability of habitats to support mountain beavers. The impacts of such activities may be exacerbated in the eastern Sierra Nevada, where suitable habitat appears to be extremely limited, rainfall is low, and the species probably reaches its distributional limit.

ACKNOWLEDGMENTS

We thank Mr. Philip E. Partridge for bringing the specimen reported herein to our attention, and for his continuing interest in the natural history of the eastern Sierra Nevada. Dr. David G. Huckaby prepared the museum specimen, provided the detailed measurements, and accessioned it into the Bird and Mammal Museum, California State University, Long Beach. We thank Mr. Bryan Novak for his skill as a helicopter pilot, and for his efforts to provide us the best possible opportunity to survey the Bishop and Coyote Creek drainages in a timely manner. Dr. Paul Beier provided helpful comments on the manuscript, and graciously provided transcripts of E. R. Hall's original field notes.

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UPPER SACRAMENTO RIVER TOXIC SPILL

On the night of 14 July 1991, a portion of a Southern Pacific train derailed while crossing the Sacramento River near Dunsmuir, California. Several train cars, including a tank car carrying the chemical metam sodium, fell into the river. Metam sodium is used primarily as a soil fumigant to kill fungi, bacteria, insects, vascular plants, seeds, and nematodes. At least 19,000 gallons of the chemical leaked into the river and contaminated over 40 miles of the stream and a portion of the Sacramento River Arm of Shasta Lake. The affected upper Sacramento River is a popular trout fishery in the state.

Because of metam sodium's severe toxicity, nearly all plant and animal life in the river were killed. Limited observations indicated that some fish attempted to escape the "toxic plume" as it traveled down the river by swimming into tributary streams. A gaseous plume was also present, and due to human health hazards, precluded access and immediate damage assessment by fish and wildlife personnel. Access to the river was possible after the third day and personnel began a survey of the river to document and observe the damage to fish and wildlife.

The direct effects on aquatic plants and animals was obvious; dead invertebrate and vertebrate carcasses (e.g., crayfish, suckers, trout, sculpin) littered the banks and pools, while once green algae had turned brown. Streamside riparian vegetation was also affected as evidenced by dying leaves. Impacts to terrestrial wildlife that were dependent on the river were, and are, not so obvious. The more mobile species may have escaped direct affects by leaving the affected area, but may suffer in the long-term as a result of long-term ecosystem disruption. Species that are not very mobile, and young-of-the-year, may have been killed by the aquatic- or air-borne plumes. Personal observations noted a stench characteristic of dead animals in the backwaters and eddys along the river one week after the spill, with the smell being obvious in wet clothing.

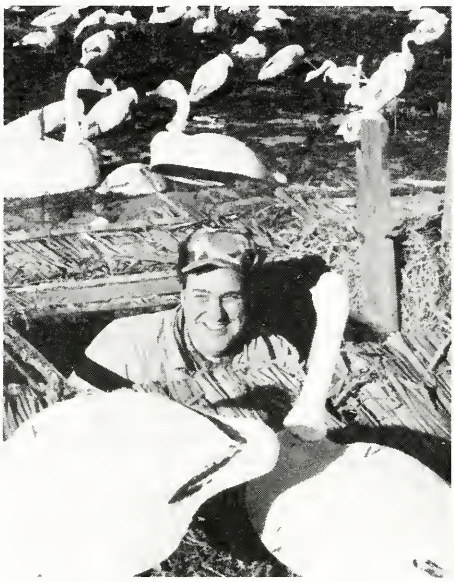
The spill demonstrated the importance of having: 1) an emergency-response team (e.g. a strike-force) available to take command of such incidents including media relations and communications, 2) knowledge of the contaminants toxic characteristics and potential risk to human and environmental health, and 3) baseline data to reconstruct the environmental conditions prior to the event, 4) on-call experts for each affected discipline of natural resources (e.g., aquatic invertebrates, fisheries, wildlife, air/water quality, plant ecology) to begin collecting data for damage assessment as soon as possible. Many other lessons have also been learned about responding to such emergencies and handling the aftermath.

The spill also reconfirmed the often forgotten or ignored foundation of ecosystems, that is, the primary producer and consumer trophic levels that were eliminated for an as yet undetermined period of time. State natural resource agencies rarely manage for these plants and animals! Suggestions to immediately restock fish failed to consider that there was no food source available. Terrestrial wildlife are expected to suffer primarily from a complex web of indirect effects as they either die from lack

of food, emigrate to new areas, shift habitat and food resources to exploit the surviving terrestrial environment, or are affected by some combination thereof. Even species that appear to be far-removed from the river's environment have the potential to be indirectly affected by the spill. Estimated time-to-recovery varies among taxonomic groups and trophic levels. Some of the lower trophic levels are expected to recover within 2-5 years, while others, such as carnivores and mature trees, may take 50 years to recover. Also, "recovery" is a relative term because it is impossible to predict whether the same distribution and abundance of all affected species will recover to pre-spill levels.

The Department of Fish and Game is developing a damage assessment plan to estimate the extent and duration of damage to natural resources. Included in this plan are three primary areas of affected ecosystem: the aquatic environment, the terrestrial plant community, and the terrestrial wildlife community. Model estimates of resource recoverability time-tables will be developed. A final damage determination phase will evaluate possibilities and costs for restoration of the river's life-forms, valuation of lost service flows and lost-use values, and compensation value for the damage incurred.- *E.R. Loft, Editor*

MEMORIAL FOR DENNIS G. RAVELING



Dennis G. Raveling, Ph.D., internationally noted waterfowl ecologist, was only 52 years old when he died in August 1991 after a lengthy illness. Dennis had spent the better part of his academic life studying wild waterfowl and their habitats. He originally came to California to join the University of California at Davis, Department of Animal Physiology in 1971. Dr. Raveling was a major influence in the creation of the Department of Wildlife and Fisheries Biology which branched from Animal Physiology.

Dr. Raveling made major contributions to the ecology, management, and sociobiology of Canada geese in the interior of North America as a graduate student and then as a biologist with the Canadian Wildlife Service. Then, in coming to California as a new professor and one of the first wildlife ecologists at Davis, Dr. Raveling spent the rest of his career working to study and conserve waterfowl in the great California Central Valley. In that time, he made major contributions to the knowledge of wintering wild ducks and geese and the marshlands to which they belong. He became a world authority on wintering waterfowl. One of his great attributes was his ability to take that knowledge and put it to use in the management and conservation of wild birds in California. That ability carried through in his teaching. The Wildlife Society recently honored Dr. Raveling with the highly prestigious Special Service Recognition Award, for "Lifetime Achievement" and the Wildlife Society's 1991 Publication Award.

"Dennis's real philosophy was not concentrating solely on one or a few taxonomic groups of animals for their own sake, but to emphasize the total

conservation and management of the ecosystem they live in. He helped that philosophy evolve by working in both natural and man-altered marsh ecosystems, and as one of the founders of the department. Studying and conserving entire ecosystems -- not just components -- to the betterment of all fish and wildlife and modern conservation efforts. Dennis was quite an authority on marshes, one of California's most important wildlife habitats; and the managers of those habitats came to him for advise and counsel," says Dr. Daniel Anderson, current Chair of the Department of Wildlife and Fisheries Biology. That department has developed recognized programs not only in wild bird ecology and management, but also fisheries and fish ecology, mammalian wildlife ecology, physiological and behavioral ecology of wildlife and population biology.

Dennis was able to publish two articles in *California Fish and Game* during the past year, with a third paper nearly ready for publication.

MEMORIAL FOR DONALD S. PINE

The wildlife of the State of California lost an uncomprising ally in September 1991 when Donald S. Pine, a highly regarded wildlife biologist died suddenly at the age of 59. Don was a true ecologist. He spent thousands of hours in the field as a hunter, angler, birder, naturalist and and as a biologist for the California Department of Fish and Game. Although Don's countless contributions to the wildlife resource include water development for the benefit of wildlife, habitat improvement projects, establishing populations of tule elk and wild turkeys, wild pig research and providing educational opportunities to the youth, he is probably most respected for his activities associated with deer. His enthusiasm for expanding his knowledge about deer and factors affecting deer populations was unparalleled. Numerous wildlife professionals throughout the State sought his advise and guidance regarding issues related to deer.

Don began his professional career over thirty years ago as a Fish and Wildlife Seasonal Aid at Gray Lodge Wildlife Area. In 1962, he promoted to the position of Fish and Wildlife Assistant in Hollister. Two years later he was again promoted and assigned as a wildlife biologist at King City, California. During his twenty-seven years in the Monterey and San Benito county area, Don became a champion for the proper management of the deer herds in that area. His ability to walk the mountainous chaparral in the 100° F plus summer heat became as legendary as his tenacity in dealing with the political realities of California deer management.

Although Don's gifts to the people and wildlife such as additional water sources for wildlife in the Santa Lucia Mountains, tule elk populations in the San Antonio Valley, wild turkey populations in the Gabilan Mountains, and access points to public lands are easily viewed and measured, it was his gift of knowledge imparted to the countless individuals that worked for and with Don over many years that continues to benefit wildlife on a daily basis. - *Donald Koch, Department of Fish and Game, Redding CA 96001, December 1991.*

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INSTRUCTIONS FOR CONTRIBUTORS

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